AUTO EXPO 72

MOTORCYCLE LAWS

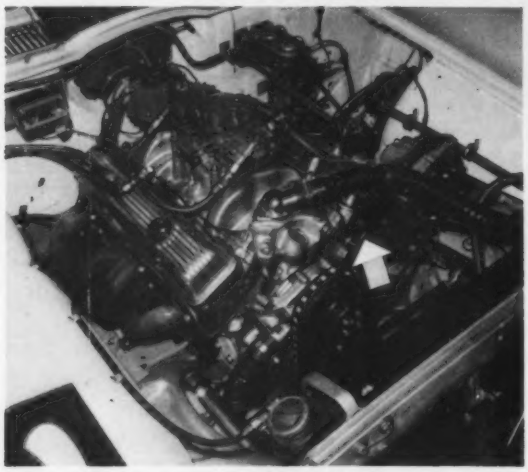
TO STOP A THIEF

DRIVER

WHERE THE RACING

Reliable suspension is a must for a race car (your street car, too).

Like most of the other drivers, Captain Helfert wore a fire-resistant face shield.



Safety-wired engine connections are becoming popular with race car drivers.

Big, fast, production and sports racing cars wind through the esses on the pace lap.

CCA sets rigid standards for seat belt and houlder harnesses. Fire extinguisher must be ounted conveniently near the driver.

They run at Riverside, BEGINS

Ontario, Laguna Seca, and other famous tracks. But for most of them, that's where the fame ends. There are a few factory cars and professional drivers, but most are businessmen drivers who build and maintain their own cars. They're doctors, lawyers, musicians—and Air Force blue-suiters.

Here is where it's really at. Here they race for a trophy and the fun of driving their own cars in competition. Track stewards, timers, inspectors—they're all volunteers bound together by a love of fine cars and the keen art of competition driving. DRIVER staff members stood on the rail of a California Sports Car Club of America (SCCA) Regional/National race at Riverside International Raceway to watch and root for a couple of Air Force drivers and their cars.

PRODUCTION CAR COMPETITION

Major Larry Cress, Air Force Space and Missile Systems Organization (SAMSO), Los Angeles, California, races in the Production H class; Sprites, Fiats, MG Midgets, Opels, and similar cars. Captain Bruce Helfert, USAF Regional Hospital, March AFB, California, was entered in the Production B class, running a Corvette against Porsches, Ferraris, Shelby GTs, and the like.

Regional/National events are for all classes of SCCA drivers from the newest novice to the most experienced. The race was held on a holiday weekend, and the Riverside track was open Friday for safety inspections and practice driving sessions. The paddock area was spilling over with drivers, cars, and crews when DRIVER arrived. Larry Cress had his "Bug-eye" Sprite in one of the two trackside garages. He was wearing his fire-resistant suit and ready for his first practice run.

SCCA is big on safety, as are all pro racing organizations. Roll bars, seat belts and shoulder harnesses, fire extinguishers, safety fuel tanks, fire-resistant socks and driving suits are all compulsory. Add racing tires, and the mandatory safety equipment can cost upwards of $500—a healthy investment.

Major Cress has been racing off and on since 1962. During 10 years of numerous modifications, his street-type Sprite has been converted into a permanent racing machine.

continued

DRIVER

THE
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FOR THE
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Transpo 72

AFRP 127-1

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THE EDITOR SPEAKS

DOUBLE CLUTCH

OVERHEATED TEMPERS ARE WORSE THAN OVERHEATED ENGINES

It's like the fella says, "You gotta maintain control if you're gonna get there and back."

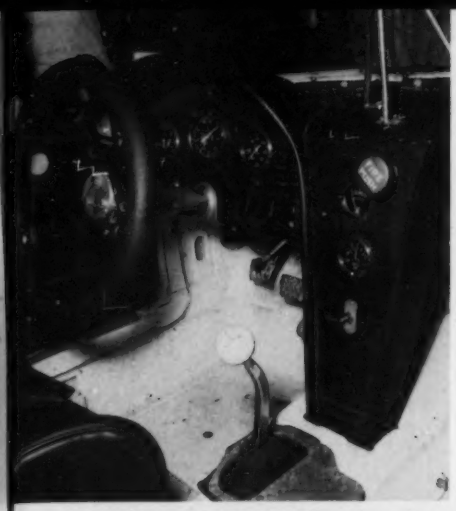
You've got a lot of horses under you when you drive today's car, and a lot of horses coming at you—from all directions. So, in addition to learning to drive your vehicle properly—on freeways, turnpikes, highways, country roads, and city streets, under a myriad of traffic, road, and weather conditions—you have to maintain control of your own actions. This makes driving a full-time job, which requires *conscious* control of your reactions. If you let your feelings hold sway during a disturbing confrontation while driving, your autonomic nervous system will trigger release of an overdose of adrenaline into your bloodstream. This will place your body in a combat-alert status, and your reactions will operate on a free-wheeling basis entirely removed from the thinking process. Allowing such a condition to exist will leave you stranded in a turbulent sea of clamoring steel monsters bent on evading or crashing your improperly guided vehicle: improperly guided because you have allowed yourself to be euchred into an incompetent mental state.

So, if you really want to reach your destination in good health and avoid hospital stays, or a dead-end trip, or keep clear of criminal charges, traffic fines, or civil court suits, *keep your cool while driving*. That's good advice, even if you're not driving, but at the controls of a moving vehicle the need is more immediate.

If some inconsiderate fellow tailgates you or pushes into your lane ahead of your car, let him have plenty of air and count to 10. Sometimes taking a deep breath will help stay the rising adrenaline: then you can whisper a prayer for that driver as you slowly exhale, and for those he's likely to meet—head-on.

If someone turns right, in front of your car, from the left lane, just try to avoid a crash—and don't let an over-charge of adrenaline cause you to get smashed from the rear while you're shaking your fist and shouting insults.

Try smiling while you drive. It will have a wonderfully calming effect on you and your fellow motorists. •



Large-face dials and small racing steering wheel are installed in the Corvette cockpit. "FIRE PUSH" knob releases a concentrated fire extinguishing agent.

A yellow flag slowed his practice run, but Larry had run a couple of 1.53 laps when he came in. (The track record for H-cars is 1 minute, 49 seconds, approximately 80 mph average.) He learned that his closest competitor had run in the 1.51 bracket, but thought he could match that in the race. DRIVER staff members left the Major checking over his car, and went looking for Captain Helfert and his Corvette.

The Captain's 26-car is a combination '63 body mounted on a '67 chassis. Its power comes from a '67 327-cid engine. Most engine components are stock, but they've been worked over to the permissible limits. DRIVER staff members were particularly interested to see that all bolted connections in the engine were safety-wired; a precaution that Captain Helfert picked up in the USAF.

SCCA has some special requirements for seat belts. They must be made of 3-inch-wide nylon or dacron. Most passenger car belts aren't good enough (a point to remember when you're replacing the belts in your car). Shoulder harnesses must be the two-strap, over-the-shoulder type. Both harness and belt must be fastened by a single release mechanism. Finally, a "submarine" belt is required to keep the driver from sliding forward out of the seat.

DRIVER staff members found Captain Helfert getting ready for his practice run. He uses a lightweight battery in order to save space in the crowded engine compartment. The battery, however, proved too weak, and a boost from his street car was needed to turn the big engine over. Then the finely tuned 327 stalled on the way to the practice session. Captain Helfert decided to wait for the 1430 run. Pushed hard in the afternoon heat, the car began streaming oil. The crew couldn't pinpoint the problem, so they took the car home. They'd repair it and take their chances in the qualifications Sunday morning.

Smaller production class cars line up on the runway for a practice session on the track.

Larry Cress' last step before suiting up was a careful check of his tire pressures. Race day heat put a lot of strain on the rubber. (So does every-day driving.)

RACE DAY

Sunday's qualifying laps, 20-minute runs with timers checking each car on each lap for fastest time, began at 0800. The bigger cars in Larry Cress' heat ran well in front, but he qualified with only two cars in his class ahead of him. The 3-car had run easily at 1.52 and he was ready.

B Production cars run in fast company. Captain Helfert's heat included a McLaren and a Porsche that had competed in the Canadian-American (Can-Am) Championship. But he qualified at 1.41+ which he thought was pretty good for an untried car.

In a 30-minute race, the H-cars run from 15 to 17 laps. Larry said "there was a lot of pushing and shoving" in the first three laps before he squeezed into third place behind the two cars with which he had expected to have trouble. By lap 9 he had lowered his lap times to consistent 1.52s. On Lap 10 the leading H-car dropped out. That left Larry running wheel-to-wheel for the lead. Then on Lap 14 the little 3-car began losing oil pressure, and Larry began losing ground. Thanks to some excellent driving through the turns, he hung on to finish second behind the H-class leader.

As expected in Captain Helfert's heat, the ex-Can-Am cars were on the pole. They came across the start line side-by-side, but the McLaren was pulling away as the cars went through the two 180-degree turns that make up Turn 6. Back in the pack the Captain was dicing with a couple of the other Corvettes in his class.

B-cars are designed for quick braking on Riverside's about-face turns, and rapid acceleration into the long straights. So closely were the drivers and cars matched that it seemed on

continued

(above, top)
Wheeling the heavy Corvette through the two 180-degree curves at Turn 6 calls for top driving.

(above)
Larry Cress (car 3) heads for the inside groove as the field turns into the straight leading into Turn 7.

Do-it-yourself is the watchword for most SCCA drivers. Larry Cress practically rebuilds his engine before every race.

continued

WHERE THE RACING BEGINS

every lap a different car broke out of Turn 6 in the lead, only to be run down in the long stretch leading into Turn 9. Captain Helfert drove a heady, skillful race. He finished second, three carlengths behind the B-class leader.

By 1800 a solid line of race car trailers was moving west on the Riverside Freeway as the drivers headed home. By Monday night most of them would be back in their garages, hard at work on their cars. Another race was just around the calendar. •

Captain Bruce Helfert, USAF, later lost his life in a B Production car race. In consideration of his enthusiasm and support of SCCA and his total devotion to the sport of amateur racing, his family felt that he would want this article printed.

The SCCA

The Sports Car Club of America (SCCA) is a not-for-profit organization that runs more races every year than any other racing group in the world. Last year, for example, its program included some 2,000 separate races involving 5,500 drivers. SCCA provides racing for some 30 classes of sports, prototype, touring, and formula cars and sedans.

The world championship events include races such as the U.S. Grand Prix, Canadian-American (Can-Am) Challenge Cup Series, and the Continental 5000 Championship races. But the most competitive and often the best road racing shows up in the amateur events such as the one reported here. At least six weekends of racing each year are scheduled in each of SCCA's seven geographical divisions. Out of this series of Regional/National races, national champions are selected in each class.

PRODUCTION SPORTS CARS

Production sports cars, the class that Major Cress and Captain Helfert race in, are dual-purpose cars, theoretically suited for highway and race track driving. Four hundred or more of the model must have been produced. The cars can be modified within limits, but the parts used must be manufactured by the original car maker. The modifications can make a tremendous difference in the car's performance. In the long run, though, production car racing is pretty much determined by driver ability and car preparation, as opposed to running the newest and most expensive car.

These events are run on actual or simulated road courses. As of now, there are some 50 private, enclosed, permanent courses, and another 40 or so converted airfields that are used. Race weekends include from 6 to 12 separate races, often involving as many as 400 cars and drivers. A single race may include several classes of cars, but each class competes for its own championship.

(below)
Riverside's famous "back straight" is shortened for production car races, but the cars are usually flat out as they bear left into Turn 9. Grand Prix cars are traveling more than 200 mph at this point.

A few reminders for the blue-water (or still-water) sailors

cast off...WITH CARE

Military boat owners (or renters or just plain hangers-on) agree that very little beats a tour on the blue water. Whether chugging about a small lake looking for a good fishing spot, or running before the wind and heading out to sea, there's something about the "master of your destiny" bit and the chance to breathe genuine fresh air.

By now the '72 boating season is well under way. And by now the annual collection of boating incidents and accidents is beginning to flow across the safety officer's desk. This appears to be a good time to take a quick cruise in the troublesome areas that come with the season.

First off, after a winter ashore did you remember to re-stow *all* the required equipment? Do you still have a life-saving device for every person who comes aboard—including any waterskiers? DRIVER hopes you use life jackets or vests in preference to water-buoyant cushions. At the risk of being a spoilsport, we hope that you make sure your passengers know how to use them in the water, and insist that children wear them at all times.

Remember that your running lights must be connected and in working order, whether you ever intend to run at night or not. In the area of signaling devices, the whistle must whistle or the horn blow. It can be a portable gadget, but it must be on the boat, not back in the garage. Have you checked the fire extinguisher to see that it will work when needed?

A winter in storage and a few trips this year might have been too much for the anchor line. Look and see that it isn't beginning to rot or fray. Were there any times last year when you were ready to drop anchor—and didn't have enough line? Do you need a longer line?

NOW IS THE TIME

Your tool kit and first-aid supplies: are they complete, or is that pair of pliers still in the car and the bandaids still stored in the bathroom? If you haven't got around to buying a paddle or a pair of oars, a waterproof flashlight, a big pocket knife (remember those water-soaked knots you couldn't loosen last year?) and an extra fuel tank, now's a good time to get them.

One more point. Now that you've looked them over and know you have everything, check them every time you cast off.

Keep your boat clean, inside and out. You didn't buy a boat to spend your time slaving over a hot deck, but taking care of the equipment and spare parts will go a long way toward getting you out of trouble—if and when. And take a little time to make it shipshape again after you've docked.

DRIVER knows you're a good host, and that you like to take your friends along. But we don't know if you *always* take time to show all of them where the emergency equipment is stowed, and how to use or put it on. Maybe you like to be the big wheel as far as working the boat is concerned. It's smarter, though, to take along at least one other person who knows a boat hook from a bail bucket.

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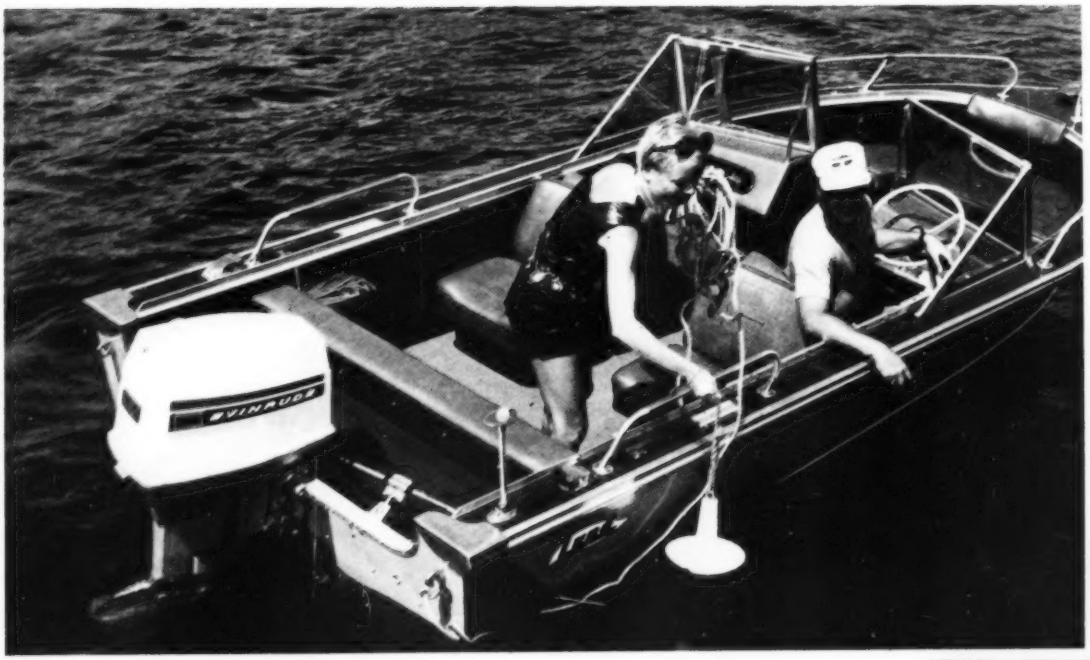
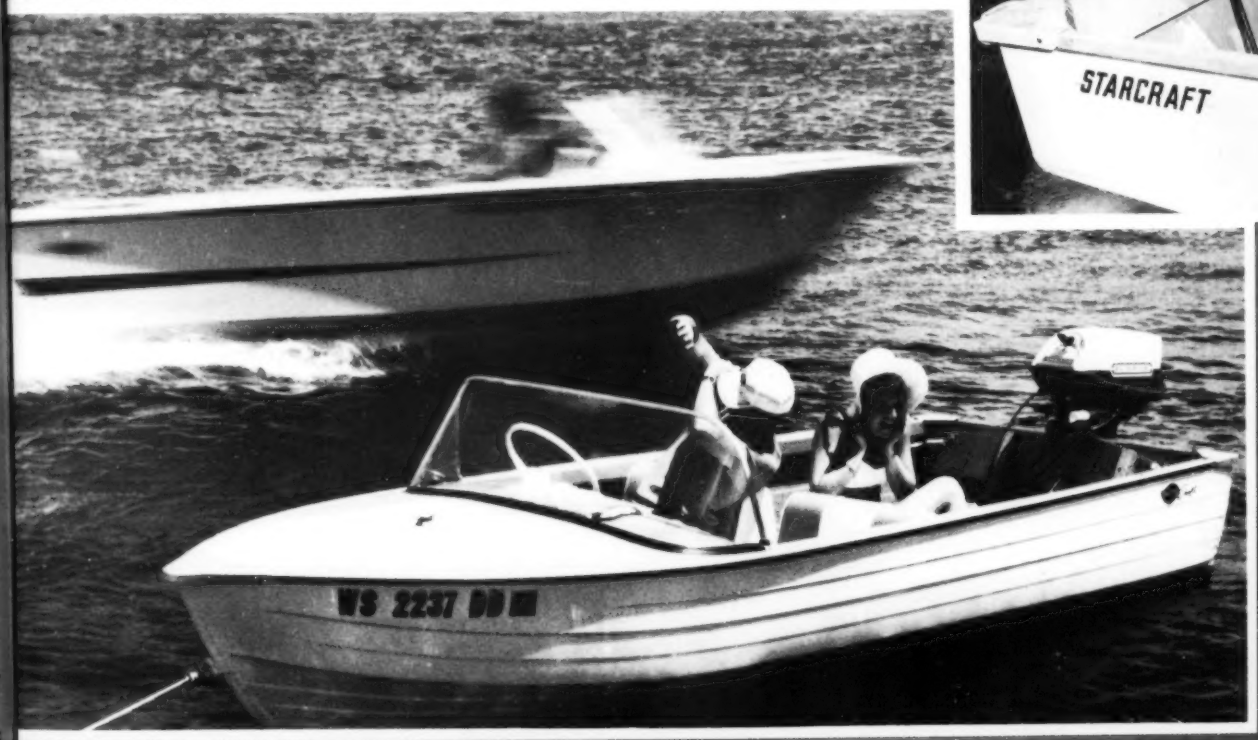


(above)
We don't believe she's really having all that trouble. But handling an anchor is a tricky business.

(right)
A quick course in how to start an outboard. Be sure the gear shift is in neutral. Sit, don't stand up in the boat. If you must, brace your hand (not your foot) on the engine. Pull straight back on the rope, and the motor should start quickly.

(below)
Most water-soaked boaters take it less gracefully than this. The racing driver is responsible for any damage resulting from such careless acts.



continued

CAST OFF — WITH CARE

CRUISING COURTESIES

For all the thrill of running full-out, don't forget you're responsible for any damage to property or other boats caused by your wake or careless maneuvering. Maybe you're accustomed to the wide-open waters, so remember to adjust your speed to the other craft around you in heavy traffic. Also, you're expected to stay clear of swimmers, divers, and water skiers.

Experienced or not, most collisions come about because someone just flat wasn't looking. Don't let equipment, chairs, or people stack up in front of the skipper's control area and block his view in any direction. When cruising in crowded waters, be sure to post a lookout. We'll bet it's been a long time since you've looked at the Rules of the Road. Maybe that's why you came so close to that swimmer or cruiser the last time out.

WEATHER AND WEIGHT

Now that you're a veteran seaman, do you still check the weather before you go out? Even the most sheltered lake can work up a storm in a hurry. Invest in a five-band radio and keep a close ear to the weather frequency.

DRIVER hopes you don't forget that your boat has a posted capacity for passengers and equipment. Don't be afraid to say "No" when unexpected guests turn up. In addition to the chance of exceeding the safe limits, a heavily loaded boat is harder to handle when the weather roughens.

You should be careful about yielding to spur-of-the-moment plans and taking off for parts unknown. If the dockmaster, marina operator, friends, or relatives don't know where you are going and when you expect to return, they won't know when to report your absence. It's a lot easier for you to be found if the searchers know where to start looking. (See "How Goes It?" Page 21.)

(right)
In most cases, sailboats have the right-of-way over motor boats. We doubt, though, that the sailors are going to make a big deal out of it.

(left)
The skipper has correctly removed the extra fuel tank from the boat before refilling. Now he should be careful not to spill any gasoline when he brings it aboard. The feminine first mate is doing her part by making sure her young daughter wears a life vest.

Failure to follow simple (safe) fueling practices often leads to fire and explosions; the number one cause of property damage and number two in personal injuries. If your boat has a portable fuel tank, disconnect the fuel line and remove the tank from the boat before you refuel. Be especially watchful that you don't spill any fuel when you replace the tank, or when you are filling built-in tanks. But if you do—wipe it up thoroughly and ventilate the boat for 5 minutes before starting the engine.

Going down to sea (or to the lake) usually doesn't require a driving or written test. You don't need an operator's license to run an outboard or command a cabin cruiser. Common sense and good judgment will hack it. Take time to go back over the suggestions in this article. Then, "Let me go down to the sea again. . . ." •

the LAW & the AUTOMOBILE

This month we discuss "negligence," and how the courts have applied it to various driving situations.

A stranger hands you a legal-looking paper, and your heart skips a beat as you read it.

You call after his retreating figure: "Hey, this is a summons!" As the man disappears around a corner, you really explode: "There must be a mistake; somebody suing *me* for 50 thousand bucks!? Why I never even heard of this guy!"

After a while you stop yelling, and it all comes back in a flash: the excited little man crawling out of his mini-car and blowing his top about a very small dent in his rear fender. You wondered why he was so excited, since he didn't seem to be hurt or even rumpled. But he wrote down your license number and drove off.

You examine the complaint closely and comment as you read: " 'Repairs to plaintiff's vehicle, $910.' He must've had the thing rebuilt! 'Rental car, $121.' H-m-m-m. 'Antique vase on front seat broken.' Aw, c'mon now! 'Imported tape recorder on back seat damaged, $500.' Wow! 'Hospital expenses, $600.' How'd he even get there without help? 'Pain and suffering, $20,000.' *That* does it! 'Punitive damages, $27,369."?? (Your punishment for having been "negligent"). Then you sheepishly recall shrugging and thinking, *Oh, well, I have my 5, 10 & 5 insurance.*

Preposterous? Perhaps, but you'd best not believe it couldn't happen to you. The little guy could have backed his car into a tree after he left, and the vase and recorder could have been in his car. . .you wouldn't know, because you didn't look. You hit his car from the rear, didn't garner any witnesses, and failed to report the accident; so you'd start out with three strikes against you before any judge or jury.

The court might not award him the entire $50,000, but the tag could be considerably more than your insurance policy (and pay check) would cover.

Here are some other types of negligence which could be considered primary accident causing factors, or, "proximate causes":

Condition of automobile. If your car has any dangerous defects that you know—or should know—about, the law says you shouldn't drive it.

Drivers involved in accidents have been adjudged "negligent" for operating vehicles with worn tires, poor brakes, broken mirrors, defective steering, inoperative lights and signals, and any number of other malfunctions and dangerous conditions. You may be cited any time an officer notices something wrong with your vehicle; however, you won't necessarily be held responsible for causing an accident if the defect was not the "proximate cause."

Sometimes proof of the proximate cause involves split-second timing and a skillful lawyer's ability to point up technical considerations that might not otherwise be clear to a judge or jury. In one such situation, a driver was not held "negligent" in the death of a child who had darted out from behind a parked vehicle. Although the car brakes were faulty, the court ruled that the brakes had not been the proximate cause of the accident because the driver could not have avoided the child under any circumstances. But if your car struck a child using a crosswalk, and you knew your brakes were faulty, the proximate cause would be your "negligence" in failing to have them repaired.

Some defects are built in at the factory, and you may not be aware of them; but you may be held responsible for those caused by defective or faulty modifications, or poor maintenance, when such deficiencies were found to have been the proximate cause of an accident.

Condition of driver. When you are issued an operator's license, you are assumed to be in good physical and mental health. Thereafter, you are expected to know when you should or should not drive; but an unexpected illness or mental aberration may be considered a mitigating factor in an accident case. However, if the court finds that you were aware—or should have been aware—of the debilitating condition before you became involved in the accident (assuming your condition was the proximate cause) you may be adjudged "negligent."

Should you become involved in an accident while driving under the influence of alcohol (or drugs, whether prescribed or not), you may also be held liable for damages and injuries. If your condition was the proximate cause of someone's death or injury, you could face criminal charges.

Driving under the influence (DWI) is a crime in most states, but a federally-backed program encourages the states to consider alcoholism a disease, and to remand the alcoholic driver temporarily to a mental health unit instead of fining or jailing him. There, he is to be treated, counselled, and placed under future surveillance aimed at keeping him sober.

It's no crime to be tired or sleepy, but if you nod off at the wheel and have or cause an accident, some "injured party" or "claimant" may claim everything you own. . .and more. You're supposed to know when you're too tired or sleepy to drive safely, so you'll very likely be held "negligent." Even if you don't hit another car or person, you might have to pay some farmer for a very dear cow, or fence, or even a tree. . . or the state/county for some very expensive road signs or other properties. And, of course, you could ruin your car and be killed or maimed.

The same goes for wearing glasses for distance vision. If they are noted on your driver's license and you aren't wearing them when you have an accident, the proximate cause may be adjudged "neglience" on your part.

Precautions. Insurance can be a big help, but won't amount to much in a high-claim civil suit if you carry a low-coverage policy. And it won't help at all in a criminal case.

As of the end of last year, seven states initiated "no-fault" insurance plans, and a great number of others are expected to be moving in that direction this year. This will help in making timely settlements of civil claims, but you'll still be fair game for those who can prove that you were "negligent" in causing more injuries and damages than your policy covers.

So, DRIVER's advice is to not be "negligent" (careless) about operating and maintaining your vehicle; nor "negligent" (uncaring, naive, or ignorant) concerning your physical condition, vehicle codes/traffic laws, and adequate insurance coverage.

Next month we'll discuss "negligence" as applied to road/weather conditions and speed, and the right-of-way which you might *think* is yours. •

auto expo 72

Futuristic prototypes and several outstanding safety innovations highlight the Los Angeles foreign car show

DRIVER took a browse around this year's International Auto Exposition in Los Angeles looking for signs of new safety features in the latest foreign cars. Well, we found some interesting ones, and concluded that select manufacturers have some really worthwhile features available to the consumer. However, we noted little evidence this year of a big effort in this area on the part of the majority of foreign car makers.

BUILT-IN ROLL CAGE

Several displays of the latest foreign vehicles included films of crash test sequences. Along these lines, one of the more interesting efforts toward making an automobile less susceptible to crushing was neatly integrated into a line of Scandinavian autos. This type vehicle features a built-in roll cage surrounding the passenger compartment, and energy absorbing bumpers, BOTH front and rear, as well as a protected gas tank and front and rear impact-absorbing spaces. A dual diagonal-braking system (80 percent of braking effect at front wheels) with power disc brakes all around, plus rack-and-pinion steering and front-wheel drive make this an import worthy of close study.

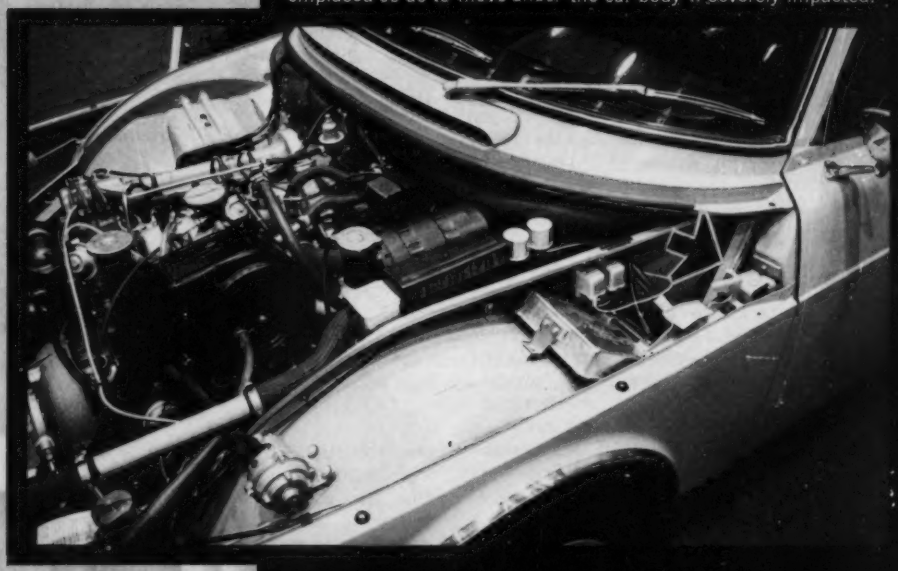
QUARTZ BEAMS ON THE WAY

Although many vehicles, including the one just mentioned, are produced in Europe with quartz-beam headlights (some with automatic washers),

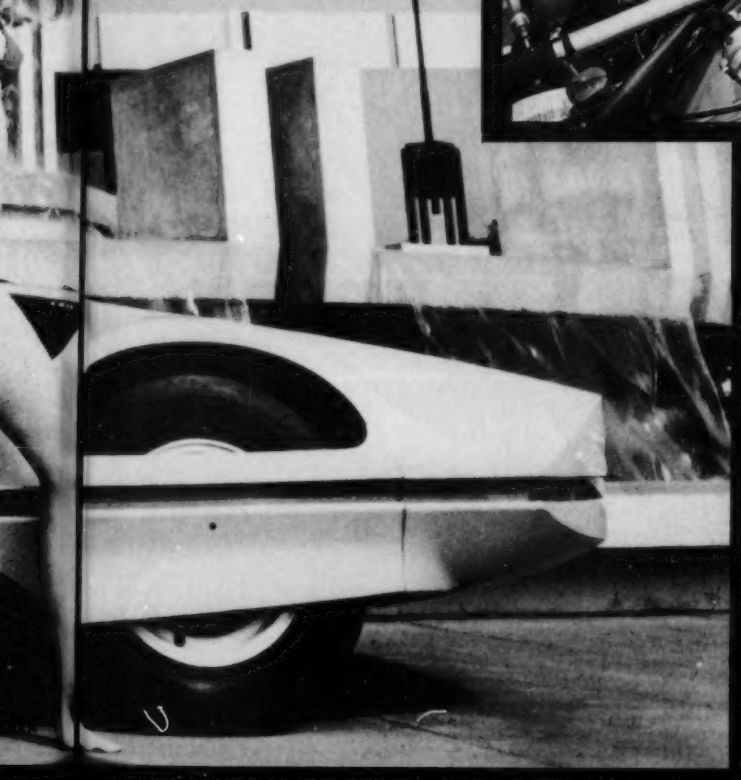
they must be manufactured with sealed beams to meet present U.S. requirements. However, DRIVER learned from the Department of Transportation that a notice of proposed rulemaking on permitting quartz beams is due out this month, possibly to be followed by legislation in the near future. If you are considering a new foreign car, keep tabs on the current

continued

Roll cage crush-resistant protection is partially visible in these photos of a new foreign auto. The passenger space is framed with beams along the roof line, in the windshield and side window supports (arrow below), and along the floor sides (the sill beams). In addition, cross-beams run beneath the rear seat (arrow left). The fuel tank in this model is isolated between the rear wheels, completely sealed by a solid panel underneath the rear of the car. The engine is emplaced so as to move *under* the car body if severely impacted.



(below)
The Ferrari Modulo prototype.



The grace and elegance of the older classics attracted many visitors. It's not hard to see why the bumpers on these cars were more effective than many of today's integrated non-functional embryos.

An unusual behind-the-wheel circular instrument display arrangement (inset) is one of the unique features of the Maserati Boomerang prototype. Hostess Maggie Smith is not a prototype.

continued
AUTO EXPO '72

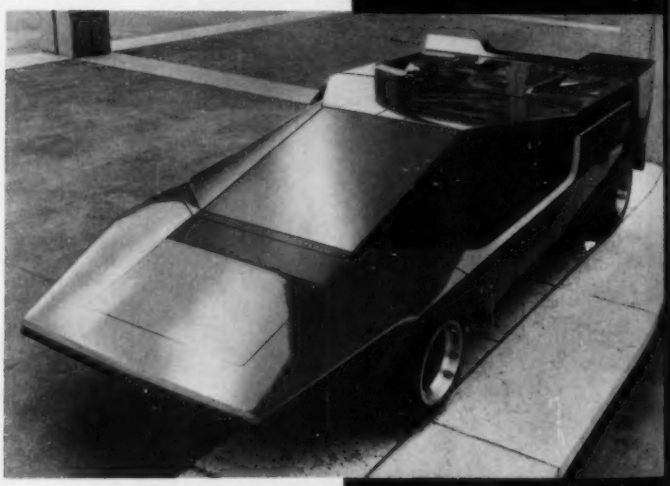
legislation on this subject. The rectangular quartz-beam halogen headlights are considered by many as superior to the sealed-beam system.

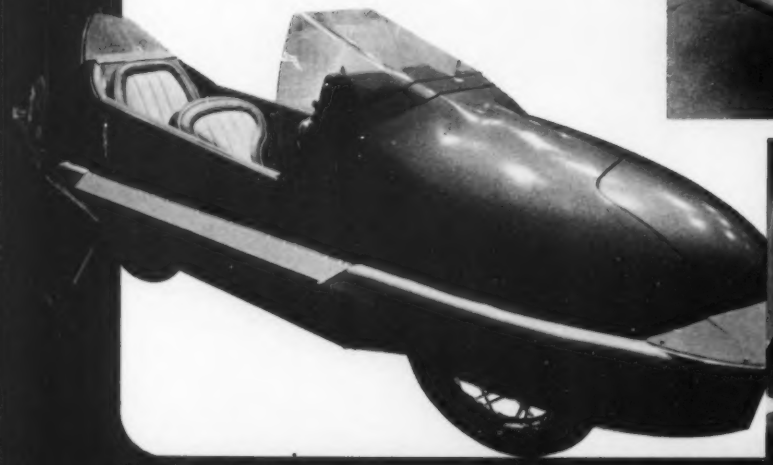
MODULO, BOOMERANG, AND VECTOR

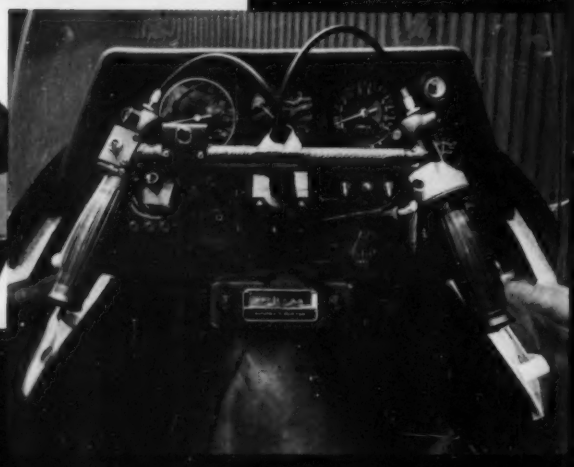
Traditionally, Italian designers are leaders in exciting automotive design. A sampling of this year's prototypes gave a good idea why their designs attract so much attention. The Ferrari Modulo is an exploration into new design elements and technical ideas for possible future application. It was built for Ferrari on a 512S racing chassis, although not intended as a racing machine, and consists of two body shells, one atop the other, separated by a small groove around the perimeter. The ve-

continued on page 26

(below)
The Vector, an American-designed prototype, made its debut at Auto Expo 72. When this car goes into production it may get a high-performance version of a rotary engine.







(above and right)
Whazzat?! Something a little different in the way of vehicles is this U.S. designed "Bi-car." According to a sales representative, the vehicle was designed for "frustrated pilots," and features advantages of both a motorcycle and a car. At lower speeds this vehicle is supported by a retractable landing gear that keeps the vehicle level. It is powered by a 60 hp 500cc motorcycle engine. One thing for sure, it will be more "visible" than the standard cycle.

WHAT YOU ALWAYS WANTED TO KNOW ABOUT

MOTORCYCLE LAWS

(BUT DIDN'T KNOW WHO TO ASK)

The weather turns hot, fancies turn frivolous, and summertime arrives. Warm golden days that melt slowly into twilight. These summer days make weekend jaunts, Sunday rides, and cross-country trips a new compulsion. Pick your destination if you're one to plan, or your direction, if that's your bag. The adventure is yours, awaiting just down the road.

Within hours, or even minutes, you can be out of your own state and into another. What more could one ask for on a hot sunny afternoon with a little money and some leave time saved up? Plenty!

Suppose you're cruising along, having crossed the invisible state line. Your spirits lift, you've left the flatlands of your mind far behind, and mountains and valleys appear mysteriously from nowhere. Things are really cool until you look into your rear-view mirror and spy that dreaded red light flickering round and round. Your untogether head goes through its checklist: What have I done wrong? Was I going too fast? At that precise moment the officer climbs out of his big black-and-white car and clatters slowly over to your side. Your deflated ego, limp with resentment, faces off with Officer Friendly. He holds a citation book in one hand, and the other is propped on his hip. The only way for you to look is down, and all you see is your disheveled reflection in his glossy black kneeboots. Officer Friendly extends a warm greeting from his state.

"Hey, what's the story, don't you know that. . .?"

Your story is very simple. You were just out on a sunny afternoon riding around, and thought you would come across the border to have a look around. But Officer Friendly doesn't care what you came to see, because you weren't burning your headlight—and, according to the law of this particular state, motorcycle riders must burn motorcycle headlights at all times they are riding, day OR night.

The officer issues a ticket, ambles on back to his car, brushes against his whip-like antenna, opens the door, climbs in, buckles up, and drives off. As he disappears into nowhere you're left standing in the gravel with a sinking feeling in the pit of your stomach as you mentally subtract the amount of the fine from your scant vacation funds.

What had started out being a fun, inexpensive little jaunt from one state to another turns into a costly and memorable one. It's no fun going on any kind of trip and getting curbed by the police. The best way to avoid this type incident is to get straight with the requirements of each state before you leave home. DRIVER recommends you go one step further and comply with maximum requirements, no matter where you ride. After all, what does it cost to burn your headlight at all times and meet the other few requirements that you are probably already complying with if you ride on base? Not much, and well worth the peace of mind that comes from knowing you are obeying the law and have everything possible going for you, safety-wise.

To help you down this safe-and-sane road, DRIVER presents the following chart. It details each state's legal requirements, and is current as of 11

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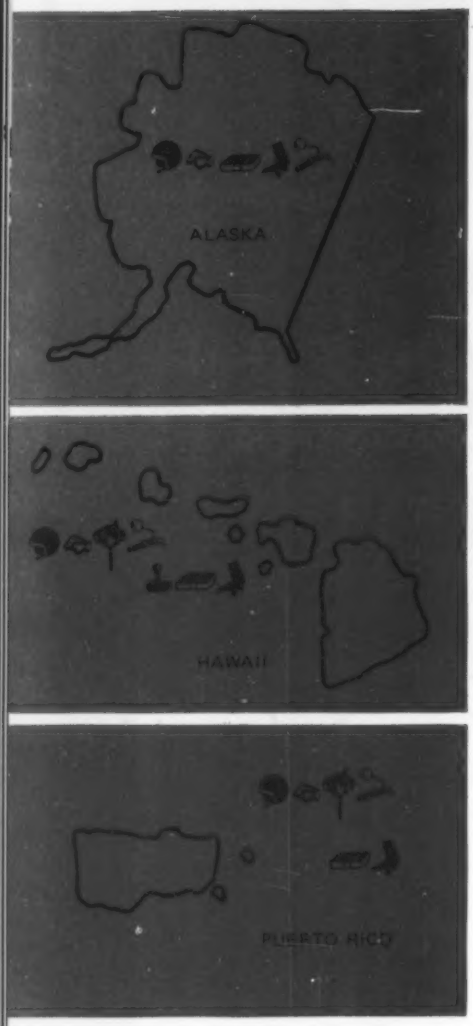
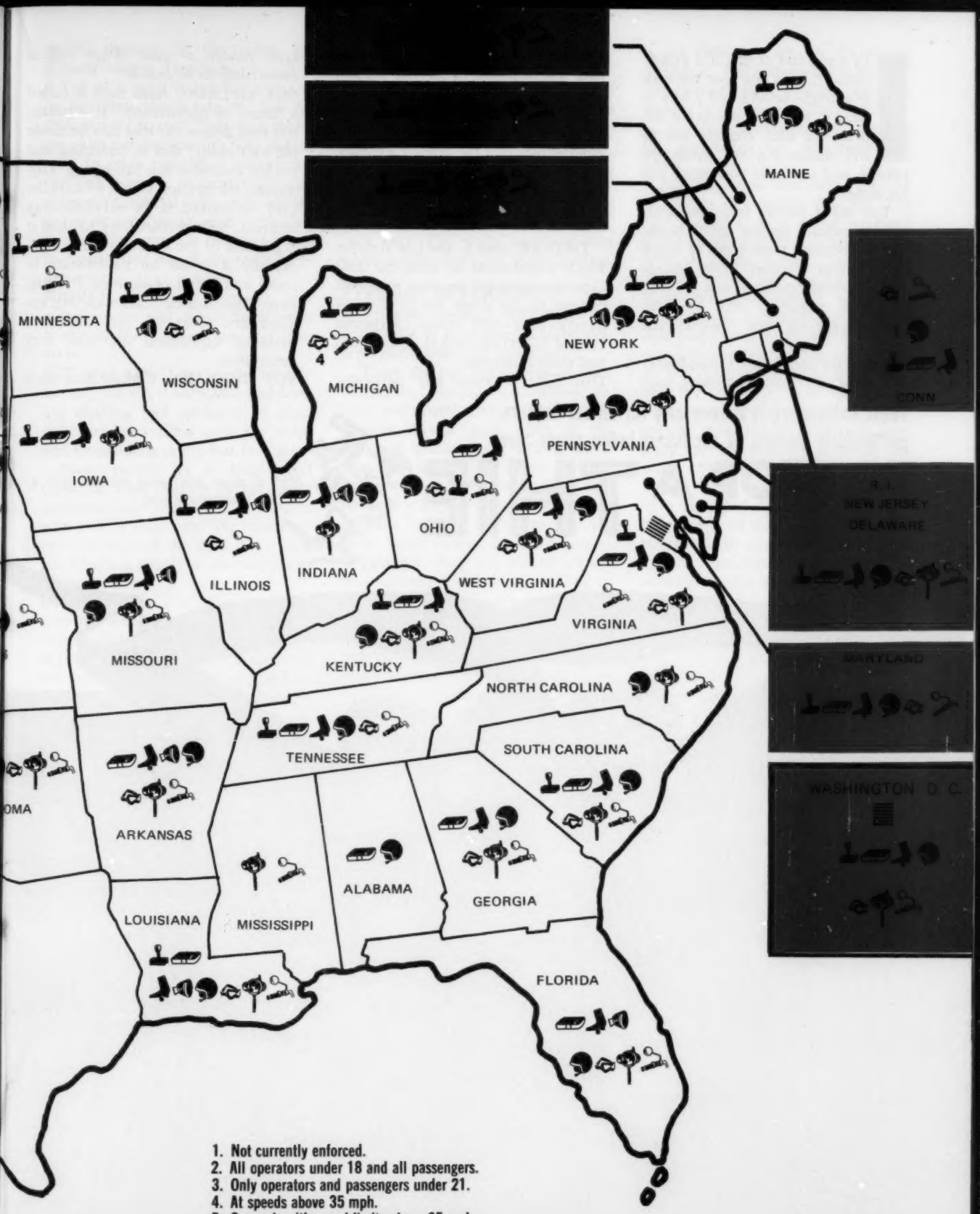


continued

WHAT YOU ALWAYS WANTED TO KNOW ABOUT MOTORCYCLE LAWS

May 1972. However, many legislatures are in session and have bills pending which bear on motorcycle activities. Also, Federal Highway Safety Program Standard Nr 3 will eventually result in all states compliance with maximum requirements discussed here, with the exception of burning the headlight at all times. Best update yourself on the requirements in your area before you set off. •

(Adapted from an article by Linda S. Moran, Production Editor, CYCLE magazine.)



1. Not currently enforced.
2. All operators under 18 and all passengers.
3. Only operators and passengers under 21.
4. At speeds above 35 mph.
5. On roads with speed limits above 35 mph.

Information concerning motorcycle law requirements furnished by U. S. Department of Transportation.

Theft deterrence is a necessity for all car owners, particularly owners of accessory-laden super-cars

TO STOP A THIE

(Part of above information obtained from a HOT ROD magazine article)

It's a sad fact of life, if a professional thief wants your car badly enough, he will find a way to steal it. But, if you make it difficult for him, chances are he will decide it's not worth the trouble, and will leave your pride and joy alone.

Too many people take absolutely no precautions against theft. Seems strange, because most types of alarm systems cost relatively little ($2 to $30 for sound systems), and are easy to install, requiring only a screwdriver, soldering iron, and electric drill.

Yet, many people don't even bother with measures that cost nothing, such as locking doors and windows. Last year, for example, of the one million cars stolen in the U.S., 80 percent had been left unlocked; and of this 80 percent, 40 percent of the owners thoughtfully (for the crook) left their keys as bait!

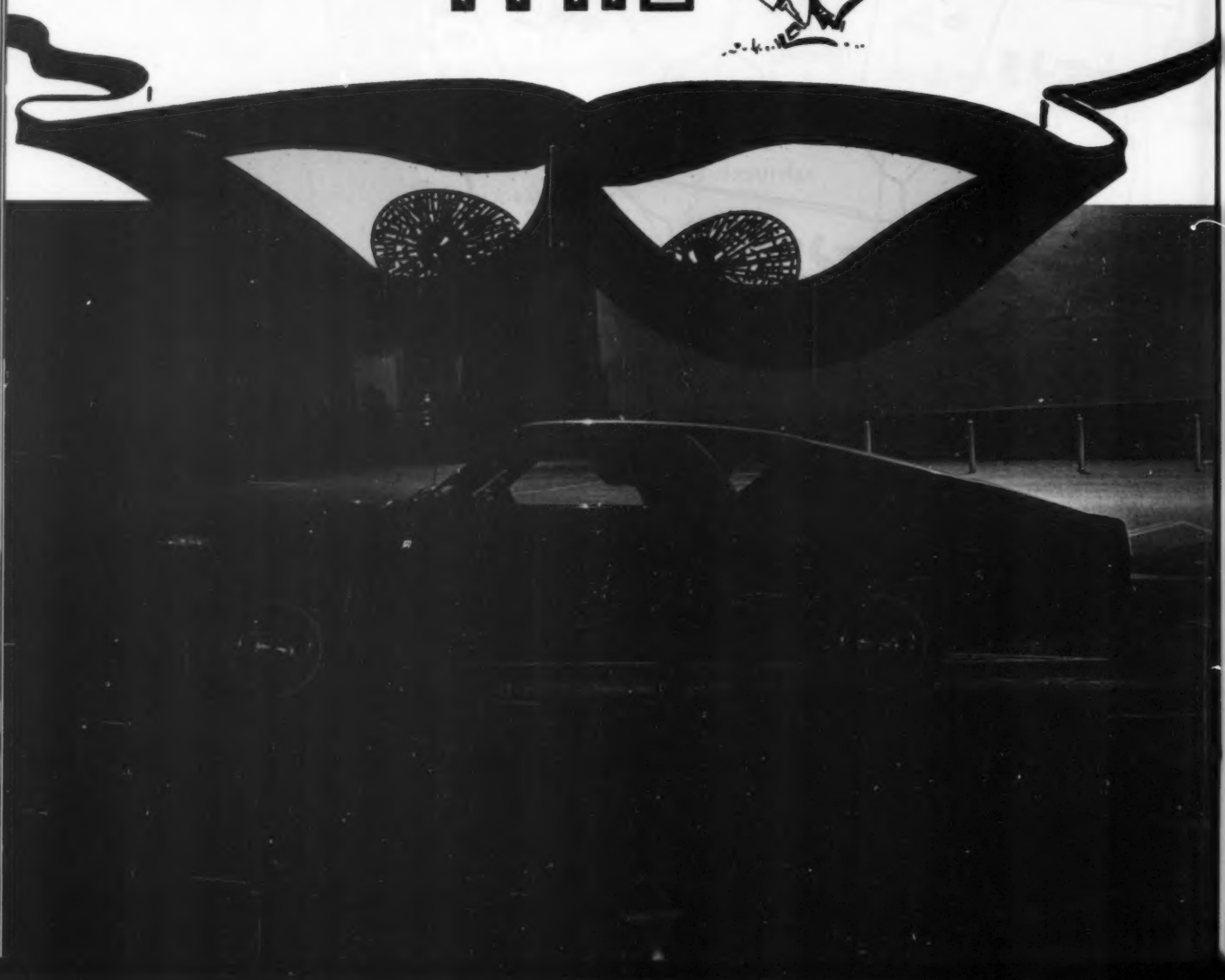
WHAT THE EXPERTS SAY

DRIVER went to the Los Angeles Police Department for some car theft experts' comments on what motorists can do to cut down the chances of having their cars stolen. Sergeants Harold J. McLain and H. J. Guevara had these comments:

DRIVER: Is there any particular type, model, or year of car that is more likely to be stolen?

SGT McLAIN: Auto theft is called a 'crime of opportunity.' If a potential thief sees a car that can be made off with easily; that is, unlocked and readily available for 'hot-wiring' (bypassing the ignition switch to start the car), or parked in an out-of-the-way location, he'll probably try to steal it regardless of the make or model, especially if it has an out-of-state license and is full of clothing and luggage. The 'muscle' cars with big engines and what we call 'attractive nuisance' equipment are also very susceptible.

SGT GUEVARA: Certain cars, such



as '62 through '64 Chevrolets, are popular targets. Generally, though, if a kid or a gang is stealing a car to go joyriding, they'll take the first car they can get started. They may prefer an older car because it's less noticeable. In other cases they may steal a car just to get a particular piece of equipment; special tires, mag wheels, stereo or tape decks, and particularly those dual-purpose radios that can be easily lifted out of the radio compartment.

***DRIVER**: Statistics seem to bear out the point that driver carelessness is one of the leading causes of auto theft.*

SGT McLAIN: Leaving the keys in the car, leaving it unlocked, and leaving clothing and packages in plain sight are invitations to a car thief, and temptations to the first-time thief.

Many people try to hide credit cards or even wallets in the glove compartment. There are few thieves who won't look into the compartment, or tear off the door if it's locked. That's a totally unnecessary and expensive loss.

***DRIVER**: Do you think ignition/steering wheel locks have reduced auto thefts?*

SGT GUEVARA: They discourage the inexperienced thief and reduce the temptation for others because it takes longer to break or punch out the lock. But there's a tool that will break off the lock, just like the tools to open windows, release door locks, and cut out equipment. An ignition steering wheel lock is no reason not to lock the car or overlook any of the other precautions.

***DRIVER**: Let's say that people have learned to lock their cars, take their keys with them, and lock up or put the bundles out of sight. What's next?*

SGT McLAIN: I'd say the next point is to be more careful where the car is parked and left. For example, a lot of metropolitan parking lots are closed and unattended over the weekend. A thief will set himself up as the attendant, tell the driver to leave the keys, and even collect a 'parking fee' for the privilege of having the car stolen. Always be cautious about turning your car over for parking.

SGT GUEVARA: That leads to the subject of leaving your car out overnight. If you have a garage, use it. Even parking on a driveway is usually better than leaving it in the street. If you must park on the street, try to find a lighted area.

***DRIVER**: How effective are alarm systems that ring a bell or sound a buzzer when a door, trunk, or hood is opened?*

SGT McLAIN: They're fine, as long as the driver remembers that the system will operate properly only if someone sets it and gives it the necessary care. I'm really surprised that more people don't use these systems.

TYPES OF DETERRENTS

After leaving the LAPD, DRIVER had a look at some current alarm systems and learned the following:

There are two basic types of theft deterrents: locking or disabling devices and sound devices. The locking devices include such items as the standard ignition lock, locking wheel nuts and hood pins, secret switches or gas line shutoffs, or anything that requires a key or combination to reactivate, or gain access to, the vehicle. While locking devices do act as a deterrent, they can almost always be overcome if the thief is willing to spend the time, if he has some master keys or if he has a tow truck.

Sounding devices, especially those with a motion detector, will scare away practically any thief before he has time to gain entry or remove items from a vehicle. In addition to being inexpensive, installing most kits is not difficult, even for the novice mechanic. The systems are wired into the courtesy light switches that are present in almost every car. Additional switches are included in the kits for installation on the trunk and hood.

An important accessory for the alarm kits is a motion detector. The device consists of a set of weighted points at the end of a long arm. As soon as there is any motion, the weight causes the sprung arm to move and make contact, setting off the alarm. It is almost like a fishing pole held at the wrong end; the slightest motion causes the free end to bob up and down. The points are adjustable for sensitivity. The big advantage of the motion detector is that a burglar need not be trying to gain entry into the vehicle to activate the alarm. Motion of the car, such as jacking it up, will suffice. Thus you have protected the wheels and whatever else is on the outside of the car. However, the auxiliary detector arm can be disturbed by vibrations of passing vehicles if you park your car on an incline, or even on level ground by high winds. Therefore, a switch is needed to de-activate the arm and still allow the alarm to be activated by other means.

Since alarm systems rely on car batteries for power, a cool-headed pro might try to quickly raise the hood

continued

The bait is set! Why tempt a thief and possibly lose your valuables and car as well? Tape decks should be mounted out of sight, and tapes and other valuables hidden—if they must be left in the car.

continued
TO STOP A THIEF

and pull a battery terminal before the alarm draws too much attention. A locked hood will protect you against this one. If you do not have an inside hood release in your car, it is a good idea to install one. Power hood locks that require the ignition switch to be on before the hood will open are available at around $10. Otherwise, hood locking pins or hood locks with key and chain will suffice.

Many people who buy alarms take exception to drilling a hole in the sheet metal of their precious steeds, so they hide the key switch under a fender or behind the grille. But this will only help defeat your purpose, since the sight of a key-type alarm switch, especially if it is backed up by burglar alarm system decals, is a sure deterrent to vandalism or theft. And, after all, that is what you are trying to do. One other thing: think what effect the under-the-fender switch will have on your good suit some rainy Saturday night.

Installing a good alarm with motion sensing arm and warning decals makes sense. These precautions can conceivably save you a great deal of money and time, as well as the frustration of having your just-completed, I-put-everything-I-owned-into-it street machine ripped off. ●

Following are some anti-theft tips to keep in mind:

● Whenever you leave your car, even for just a few moments, be sure to turn off the ignition, lock all latches, and take the keys with you. "Hiding" spare keys under the carpeting or over a sun visor is about as clever as leaving a house key under a doormat. Thieves know all the obvious places to look.

● If you have an alarm, remember to set it. If you don't have an alarm, install one and use it.

● Don't leave packages visible inside the car. This will just invite someone to break in.

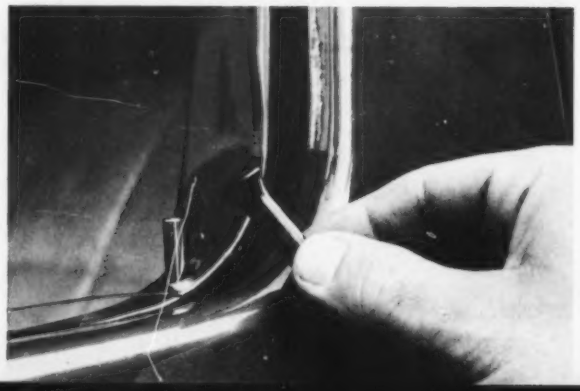
● If you leave your car in a parking lot, be evasive about how long you will be gone. Instances are known where complete engines were changed after unsuspecting drivers predicted they would be gone for several hours. Also, the only key that a parking lot attendant needs is the ignition key. Protect the contents of your trunk (and possibly your house!).

● Check to be sure that your alarm is still working after you leave your car somewhere for service. Some cases have been reported where unscrupulous mechanics have disconnected alarms and followed the owners home to steal their cars before the owners realized that their alarms were deactivated. ●

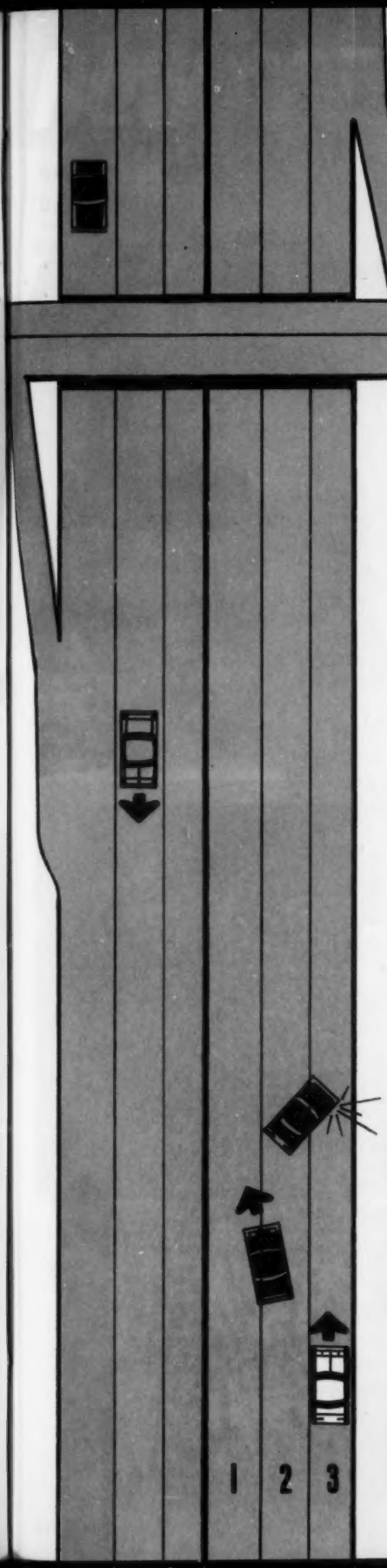
(near right)
The thief would have reconsidered breaking this wind wing, had it displayed a burglar alarm "warning" decal. Such a decal is a deterrent to theft, and a good backup to your alarm system.

(far right)
A bell alarm system such as this is louder than a horn set up and has the advantage of being legal everywhere, whereas a siren is not. Buying a complete kit is wise, since all the required parts are included.

Little things can frequently go a long way toward protecting your car. For example, the standard door lock pins can be replaced with headless types which prevent someone with a hanger (particularly on hardtops) from breaking in.



WHAT SHOULD YOU DO???



You are driving 65 mph on a six-lane divided freeway, approaching an access lane. You are in the Nr 3 (right) lane when a car in the Nr 2 lane, ahead of the car to your left, has a blow-out. The driver to your left panics, locks his wheels, and starts to slide left. The blow-out car is moving toward the Nr 3 lane and into your path. What should you do?

A. Hard brake, ease off to medium brake, ease right and off the road to stop.

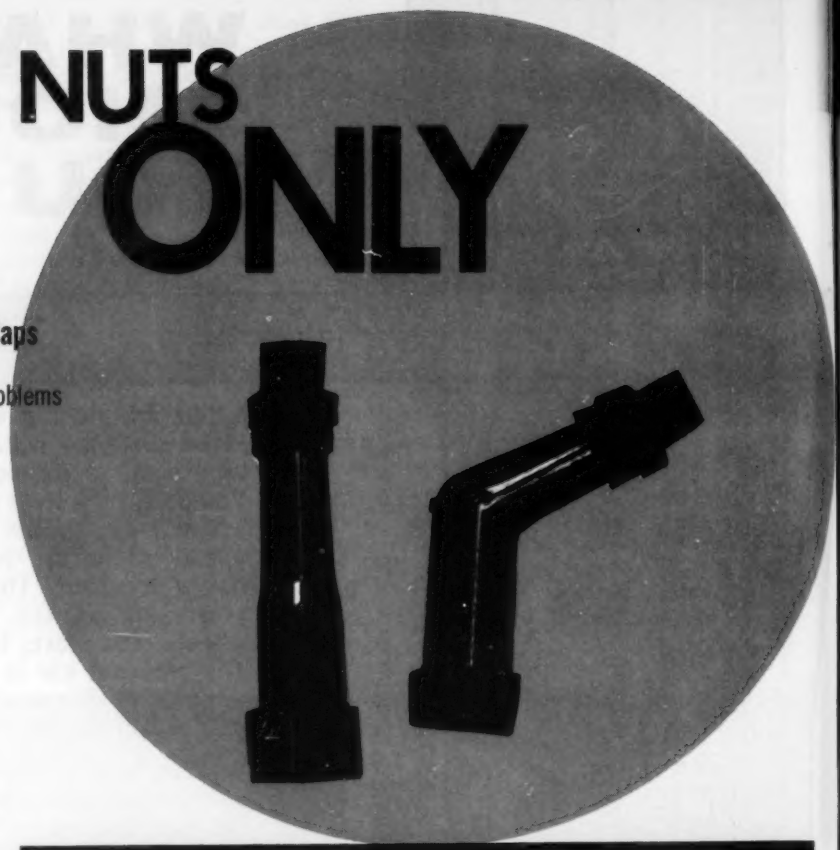
B. Accelerate and veer left ahead of car to your left as blow-out car occupies your lane.

(Answer on page 26)

FOR BIKE NUTS ONLY

Testing Motorcycle Spark Plug Caps

A very likely cause of performance problems



Almost every motor vehicle manufactured today is equipped with some sort of ignition noise suppressor. Automobiles use carbon spark plug wires and/or resistor spark plugs. Motorcycles, however, most often use a resistor element located in the spark plug cap.

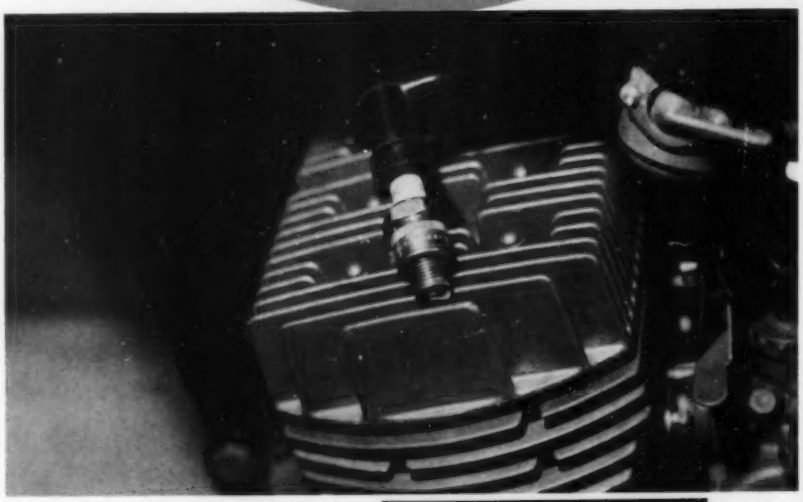
Like the carbon wires and resistor plugs, resistor caps are prone to failure. When a cap malfunctions a performance problem is quite apparent, though its cause may not be.

An easy way to determine if the cap is at fault is to remove all spark plugs and the point cover for the following test (a quick examination of the plugs' coloration should indicate which cylinder is mis-firing):

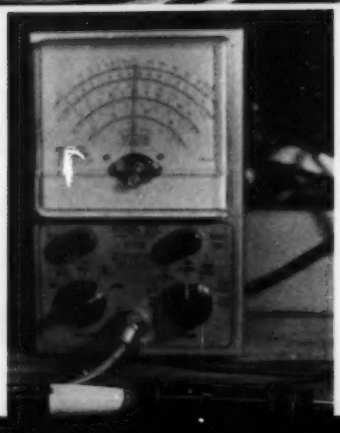
Remove the plug from the cap in question, insert a new plug and lay it against the head so you can watch the electrode gap. With ignition on, manually open and close the points to fire the plug. If no spark appears, then remove the spark plug cap and position the spark plug wire end about ⅛-inch away from a clean metal ground. If a spark now flashes as the points are moved, the trouble is definitely in the cap.

Sometimes, unfortunately, this test may *indicate* that a cap is OK when it is not. The plug might fire outside the cylinder, but not under load or high rpm. Your only recourse is to perform a resistance reading on the cap and compare that value against shop manual specs or the measured value of a new cap.

Resistance values vary from cap to cap, depending on their type and manufacture. Normally, they are rated from 2000 to 12,000 ohms. Replace any caps which measure ± 20% or more from rated value. ●



Performance problems? Yet, everything like points and carburetion check out OK? Take a suspicious look at those carbon spark plug caps.



A resistance check may prove to be the only reliable judge in some cases. Replacement caps are inexpensive, so why not replace them every year, anyway?

HOW GOES IT?

A MONTHLY RECAP OF SELECTED ACCIDENTS — PRESENTED SOLELY IN THE HOPE SOME WILL BENEFIT FROM THE UNFORTUNATE EXPERIENCES OF OTHERS

Rank: A1C **Age:** 19 **Type vehicle:** 1967 Dodge 2-door

Description of accident: After helping three buddies drink two six-packs of beer at a drive-in movie, and partying until 0230, the Amn First slept for about 5 hours. He woke up at 0745, drank another beer, and drove to his base 8 miles away. He reported for work, but departed shortly afterward without being excused.

Driving a borrowed car, the airman passed three other cars at high speed in a 50-mph zone while driving back to his girlfriend's house. After passing the third car, he yanked the steering wheel abruptly to avoid the oncoming traffic and lost control. The vehicle drifted back across the centerline and collided head-on with a car driven by a civilian.

The civilian, who was wearing his seat belt, received serious head, jaw and rib injuries, but the unbelted airman was killed instantly. Investigators found the Dart's speedometer needle stuck at 100 mph. The coroner reported the airman's blood-alcohol level was .12%, and witnesses could account for his having consumed at least 11 beers and a half a bottle of wine during the 13 hours preceding the accident.

The airman's extremely irresponsible behavior record while in the service had resulted in recent consideration for discharge under the provisions of AFM 39-12. However, military and law enforcement authorities felt there was a lack of sufficient legal justification for restraining the individual, an action that might have prevented the accident.

Probable causes: Drunk driving; passing at excessive speed; loss of control.

Possible contributing factors: Fatigue from lack of sleep and inadequate food; unfamiliarity with borrowed car; immaturity, and indifference to laws, rules, and conventions.

Rank: MSgt **Age:** 42 **Type vehicle:** Outboard motorboat, 33 hp

Description of accident: The MSgt went ocean fishing with two civilians in a 16-foot wooden motorboat with a fiberglassed bottom. The homemade boat was reported to have been well built and was equipped with a compass, flares, life jackets, food for three for 24 hours, and 30 gallons of fuel. . . but was overloaded.

The trio stayed up all night, rapping about fishing, and departed on the 22-mile trip at 0600 next morning. One of the civilians had informed his wife they planned to return at 1830 hours that afternoon.

The MSgt's wife became concerned when he had not returned by 2100, but was given the false information that she should not report them missing until daylight. She finally had a friend call the Rescue Control Center, 12½ hours after their planned return, but neither the boat nor passengers were found.

Probable cause: Unknown.

Possible contributing factors: Explosion, with 30 gallons of gas aboard and exposed at the stern, and all three men smoked; overloaded boat, with too much weight aft, making it especially unstable in rough sea or if further loaded with fish catch; fatigued crew unable to handle an emergency; 12½-hour lapse of time in reporting to Rescue Control Center.

Rank: Sgt/Sgt **Age:** 21/20 **Type vehicle:** 1971 Rambler 2-door

Description of accident: Two Sgts and two Amn consumed two fifths of whiskey while attending a drive-in movie. On the way to the base, the driver dropped the two Amn off and drove to the NCO Club.

The Rambler passed another car also going to the club. The non-com driver of this vehicle later advised the two Sgts to get some bed rest, but instead they spent an hour at the club.

Shortly afterward the driver lost control at high speed in an S-curve while driving to his home, and crashed into a bridge. The Gremlin X412 became airborne for 88 feet, then landed on a creek bank, bounced 10 feet, and came to rest upside down in 2½ feet of water. Both Sgts were drowned.

The driver, who was under Darvon and Valium medication for back strain, had been ordered not to work around machinery and not to drink alcohol.

Probable causes: Excessive speed and loss of control.

Probable contributing factors: Excessive alcohol intake and mixing alcohol with narcotic medications.

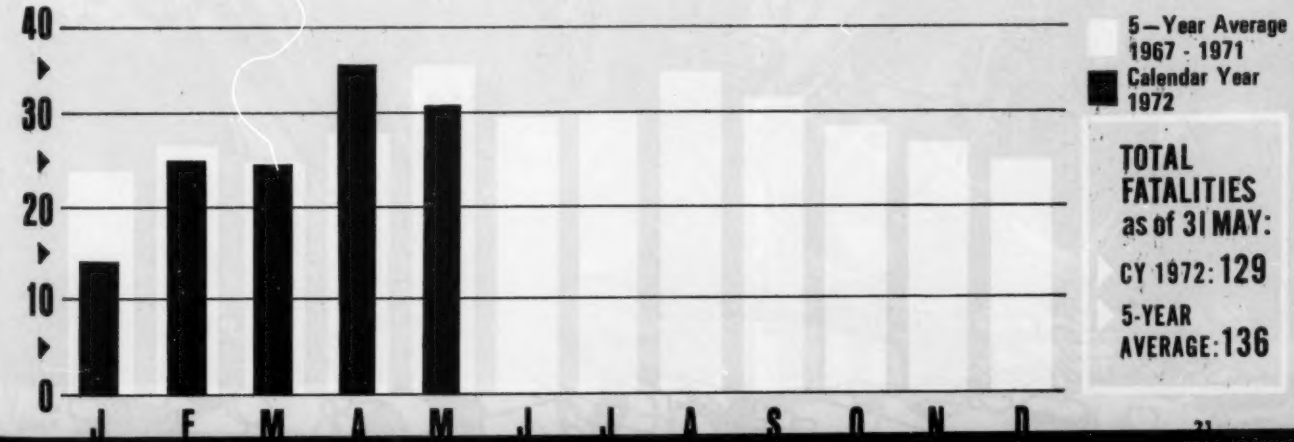
Rank: A1C **Age:** 21 **Type vehicle:** 1971 Honda Motorcycle 350cc

Description of accident: After smoking a marijuana cigarette, the A1C was killed in a high-speed motorcycle crash while attempting to pass in heavy traffic.

The airman had no driver's license, and wore no helmet or other safety equipment, and the bike was borrowed.

Probable causes: Excessive speed, inattention, and lack of familiarity with the machine.

Possible contributing factors: Effects of marijuana.



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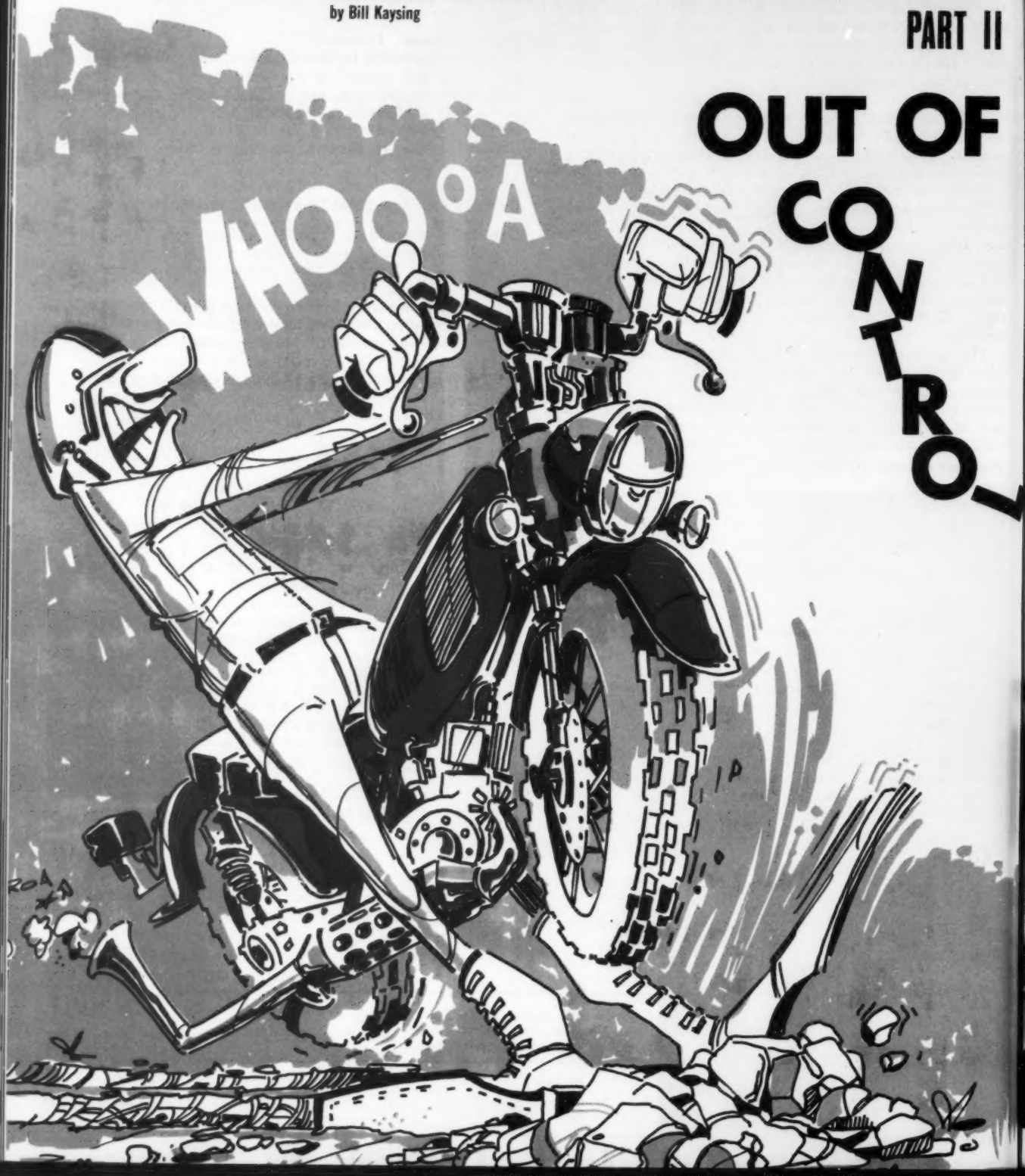
INTELLIGENT MOTORCYCLING

PART II

by Bill Kaysing



John Warmshoe, a motorcycle rider with about 9 months experience, is sitting astride his mount at a busy intersection. The red light has stared him into a complete stop. He is idly revving his engine up and down.

Suddenly, against the light, his powerful twin leaps into the intersection, directly into the path of a loaded gravel truck. An examination of the flattened machine reveals that John's instantaneous departure from the cycle world was entirely unnecessary. A little preventive maintenance would have helped, but most important, a knowledge of motorcycle controls would have eliminated the danger and the resultant accident completely.

Thousands of people are being introduced to the sport of motorcycling each year. As soon as one person on a block buys a bike, everyone else wants to try it out. "Here's the clutch and here's the throttle. . . turn it like so and pull on this, and away you go. . . here, I'll start it for you."

This is all the instruction a novice gets. Wobbling a bit at the start, he goes flying down the street and is up to 40 or 50 miles an hour before he remembers that no one told him where the brake pedal is located!

Many have been injured or killed just because they didn't take the pains to find out how to stop before they got started. Furthermore, even after they learn the rudimentary mechanical operation of the cycle, they proceed to blast down streets and highways, off the road and into the hills, without considering all of the special problems that are characteristic of motorcycling in general.

When you buy a motorcycle, the seller or dealer will usually take the time to touch on basic operational procedures. Sometimes you get an instruction manual. All of this is fine, but what about the really fine points, especially if you're riding a used bike. . . the kick stand left down on takeoff, the fatigued clutch cable? These situations are usually left to the rider to discover. The difficulty here is that the cost of finding out is a spill, an injury, or (as in the case of Mr. Warmshoe) worse.

About the accident—it was simply a case of mechanical failure coupled with a lack of knowledge of motorcycle controls. Several decades ago, most American motorcycles were equipped with a clutch actuated by a foot-operated, spring-loaded rocker built to stay either in the engaged or disengaged position. Many riders removed this safety feature and thus invented what came to be known as the "suicide" clutch. This type of clutch engaged automatically whenever the rider's foot was removed from the pedal, intentionally or not!

If the rider was at an intersection with the transmission in gear, and accidentally lost his balance, his foot would be inadvertently removed from the clutch and the machine would move forward against his will. The large number of riders injured and killed by this type of accident resulted in the "suicide" clutch terminology.

Most modern motorcycles have the clutch lever on the left handlebar, thus removing the hazard of using the foot both as a balancing device and clutch-lever actuator. However, the modern clutch employs a braided wire cable connecting the actuating lever with the clutch mechanism below.

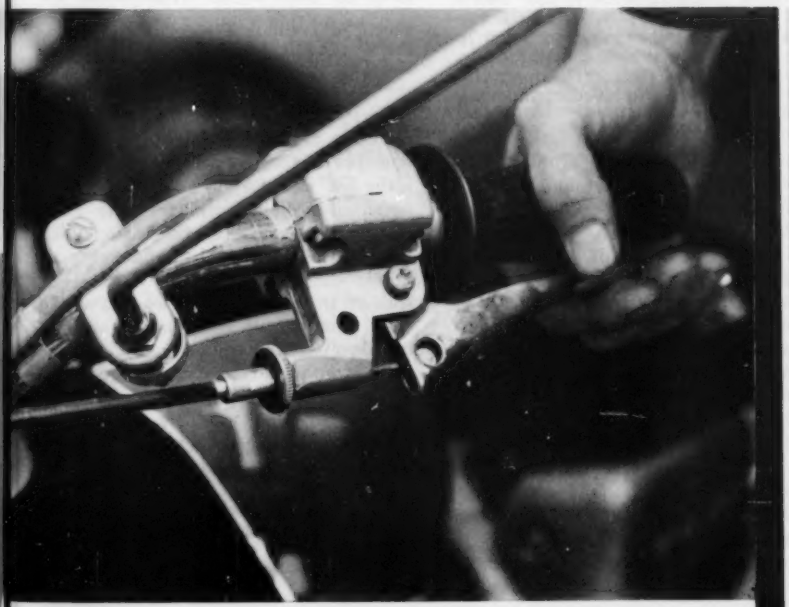
How long does this wire last and why is it important? Let's go back to actual cycle operation. Most experienced riders will downshift through all the gears as they approach a stop. This saves brakes and maintains the gear ratios in perfect match with road speed.

They shift into neutral as they approach their stopping point. Why? . . . simply because when the machine is in neutral it cannot go anywhere, clutch in or out.

What has this to do with the clutch cable? Well, when the late Jack W. was at the intersection he had the clutch lever depressed, the transmission in low gear, and he was amusing

continued

Although most "suicide" foot-activated cycle clutches have been replaced with left-hand levers such as this, a danger of accidental and untimely clutch engagement still exists. Check all control cabling periodically, or have it checked by a cycle mechanic. Braided wire can take only so much use and knocking about before it reaches the dangerous condition of these faulty cables (right).



himself by running the engine up and down the scales as many of us do. His life now depended on the clutch cable (which was badly frayed and in need of replacement). When the cable broke, the engine was sufficiently wound up to propel the cycle into the intersection, against the light, and into the gravel truck.

A motorcycle is a collection of parts which respond to the laws of physics. It is unforgiving of human error and forgetfulness. If a clutch is engaged by a rider or by the failure of a cable, the cycle will move forward in accordance with its mechanical design. The moral of this example is threefold:

- Learn all you can about any mechanical device before operating it.
- *Always* shift into neutral when you stop a motorcycle with the engine running.
- Treat your cycle like an airplane; keep it in top condition with preventive maintenance. . .the subject of a forthcoming article.

Now let us examine some of the basic elements of motorcycle controls and their operation.

Assuming that the machine is in top mechanical condition, the first thing to learn before you ride is how to stop it. Mount the machine and operate the hand- and foot-brake controls. The foot pedal varies from left to right, but the hand-brake control is usually on the right side. This knowledge can be a lifesaver.

Work these controls until you are thoroughly familiar with their "feel" and location. Paddle the bike ahead a few feet and test them out. See if the brake comes on slowly and easily, or grabs, or even brakes at all! Once underway, practice smooth, steady braking. . .using both front and rear binders.

Using both brakes accomplishes two important objectives; it equalizes brake wear and allows quicker, smoother stops. In an emergency, using both brakes can mean the difference between hitting some immovable object and making a safe stop. Practice braking under non-traffic conditions. You will soon discover that too much front brake can throw the machine out of control. . .particularly when going down steep hills on rough surfaces; also, that too much rear brake will cause the machine to "lie down"—a situation which might be desirable in some desperate circumstances, but which should be avoided if possible.

Air travel has an enviable safety record. Some of this can be attributed to the continuing policy of constant control checks. Before an airplane takes off, the pilot operates his control surfaces and the prop pilot switches magnetos to see if both are functioning.

Do the same with your motorcycle. Before leaving, try out the brakes and occasionally tap them while running to see if they are functioning. This is particularly important after you have worked on your machine. I can vouch for the fact that there is no feeling of helplessness quite like that obtained by depressing the brake pedal and finding it goes all the way down to the street. All you have to do to duplicate this feeling is leave off the wing nut that secures the brake rod to the actuating arm following a reinstallation of the rear wheel. It's that simple.

There is an old rule about braking that holds true for both two- and four-wheel drivers. If you have had to apply the brakes hard more than once in the past year, you are driving too fast for safety; *repent now!* This is especially true for bike riders, since they are their own "radiator ornaments" and will bear the brunt of any fast frontal contact. Actually, an experienced rider seldom uses his brakes at all. He merely down-shifts and allows engine compression to slow the cycle. He tries to avoid situations where hard braking is necessary.

Owners of new or used cycles should be watchful for signs of hydraulic shock fluid leakage to avoid inferior handling and riding characteristics. If your bike's front suspension feels "mushy," yet the shocks are in good repair, check with a cycle mechanic about substituting a heavier hydraulic fluid. You might be surprised at the improved dampening action and handling.

The motorcycle of the future, like many of the present, will probably come equipped with electric starters. However, since a great majority of cycles still have starter levers, here's a word about their proper use and control. First, kick the lever through once or twice with ignition and gas off to check compression.

Some of the larger bikes (and a few of the smaller) have enough compression to launch the novice over the bars or at least respond with a swift and painful kick in the shin if the rider isn't prepared for it. This usually occurs when the piston doesn't quite make it over top dead center and the engine fires backwards, thus kicking the starter lever violently back in the direction from whence it came. Some of the larger machines, however, have a compression release which can take the hurt out of starting.

Some 30 years of motorcycle starting have indicated to the author that there is really no general rule to apply to problems of cycle engine starting; each machine seems to have a temperament and personality of its own. In time, its owner becomes familiar with his machine's little likes and dislikes in gas and spark setting and learns to start it with comparative ease.

Although thousands of cyclists who have kicked their bikes millions of times without results will disagree, it is reasonable to assume that a bike engine will start if it has the right combination of spark, gas, compression, and timing. The important thing is to keep your machine in good mechanical order so that it will start with the starter.

When two people are pushing a cycle to get it started, neither can pay much attention to traffic. Towing is even worse, and should be shunned by anyone seeking to live long enough to teach his grandchildren how to ride. In the first place, the person doing the towing (whether by cycle or car) cannot devote full attention to both front and rear activities. Thus, he is likely to neglect one or the other with the usual disaster waiting in the wings.

The man on the cycle being towed is in an even worse predicament. He is trying to ride a motorcycle being propelled in an unnatural manner. . . usually by a rope tied around the steering damper knob or on one side of the handlebars. In addition, he is busy choking, clutching, shifting, throttling, and praying the ugly beast will spit some fire. It is easy to go out of control under these circumstances—the rider may spill and be dragged by the fallen bike. Also, if the engine starts suddenly, the rider may not be able to shut off in time. Find out what is wrong with your motorcycle engine and fix it. Then start it with the starter lever or button that the manufacturer provided for this purpose.

Your machine will give you good service only for good service and treatment received. •

(Editor's note: Next issue, in our third installment in this series, Bill Kaysing discusses throttles, clutches, side stands, steering dampers, and shock absorbers.)

DOT NEWS

IT PAY$ TO BE $URE

National Highway Traffic Safety Administrator Douglas W. Toms cautions each tire buyer to make sure that the seller's records are completed, for the buyer's own protection.

Federal regulations now require tire sellers (service stations, department stores, tire dealers, or anyone else who sells tires) to record the identification number of all tires, *new or retreaded*, made after 22 May 1971, along with the purchaser's name and address. The record is returned for the purpose of notifying purchasers by certified mail if a number of defects are found within a group of tires carrying the same identification number.

The new-type ID is molded into the sidewall of the tire (DOT CKL9 ABCD-152). "DOT" means the tire meets or exceeds Department of Transportation safety standards; "CK" is the code assigned by DOT to the manufacturing plant; "L9" is the tire size (in this case, G78-14); "ABCD" is a group of up to four letters (optional with the manufacturer) to identify the brand, construction, design, or other significant characteristics of the tire; and "152" means the tire was made during the 15th week of 1972. The retread code stamp also bears the letter "R."

Even though record-keeping is the responsibility of manufacturers and dealers, it is the buyer's life and safety which depend on the sales record. NHTS Administrator Toms stated, "We want to remind every motorist that an error or omission might allow him to be completely unwarned, in case his tires are recalled." •

WARNING WARNING WARNING

The following item illustrates what appears to be a serious defect in some seat-belt mounting systems that could result in death or serious injuries. What type of system does your car have?

A Captain was negotiating a slight left-hand turn at 35 mph in a 50-mph zone when an approaching car traveling 70 mph crossed the centerline and crashed into his 1966 model foreign sedan, right front to right front.

The Captain was critically injured and died later in the hospital, and his wife was killed instantly, when the harness/lap-belt restraining system failed. The civilian driver of the other car did not have his seat belt fastened, and was seriously injured when his face and head contacted the steering wheel and windshield.

A single bolt centered between the front-seat foreign car occupants carried the full force exerted by *both* restraining devices. A metal loop through which the common retaining strap was passed allowed leverage enough at impact to pull the bolt out of the floor, since there was no washer to spread the load.*

The accident board reported that had the restraining system not failed, the Captain and his wife would probably have survived.

The Wing Safety Officer stated some other foreign cars are known to have the same impractical single restraining strap and single bolt set-up which might fail even if properly washered. He recommended higher authority take action concerning possible further entry into the U.S. of cars with faulty restraint systems. However, such cars already on our roads and in the hands of our overseas troops remain a constant threat to their owners, drivers, and passengers.

The Wing SO further stated his own U.S.-made car's seat belts were bolted to the floor instead of the chassis. This system can also fail because of rust-out or metal corrosion, particularly when local road maintenance crews use salt on icy roads. To remedy what he considered an unsafe situation, he bolted a steel strip under the floorboard to prevent the washered seat belt bolts, which now pass through the floor AND plate, from being pulled loose.

DRIVER'S advice to ALL drivers is to inspect the restraining devices on ALL vehicles they own or plan to drive. If a vehicle is borrowed, leased, or rented, and the crash restraints are not safely anchored, bolted, and washered, return it and tell the owner why you won't drive it. If the vehicle belongs to you or one of your dependents, remedy the deficiency immediately. •

**Ed. note: After 1967, federal requirements for imported cars included SAE mounting standards of not less than 5/8-inch bolts and minimum 3-inch washers.*

Continued from page 12

auto expo 72

hicle has been sculpted into a unit which can have its basic characteristics altered by removing elements or modules of the basic design. The super-low vehicle (36.4 inches) has a rear-mounted 550 hp Ferrari engine, five-speed gearbox, and four-wheel disc brakes.

The Maserati Boomerang was another dramatically different car on display. Power controls on the console adjust the steering wheel, seat, and pedals to fit any driver. Most unusual is the steering wheel (see photo) permitting an unobstructed view of all vital instruments arranged in a circle behind the wheel. The two occupants' seats are placed for maximum crash protection.

A U.S.-designed car called "Vector" made its debut at Auto Expo and caused much comment over its radically different design. The purpose behind the Vector prototype was to create a street-legal, high-performance sports-racing car for limited production. DRIVER felt the car held its own among the glamorous European prototypes, and we will be interested in seeing if the car reaches the production line. •

ANSWER TO

"What Should You Do?"

page 19

The best course of action in this situation is A. HARD BRAKE, EASE OFF TO MEDIUM BRAKE, EASE RIGHT AND OFF THE ROAD TO STOP.

Chances are, there will be a lot of other cars involved before this is over, so it's best to get off the road and wait until "the dust clears." The blow-out car is bouncing around too much to predict what the driver will do. The driver on your left is just as unpredictable, and there may be drivers on the other side of him who will be trying to get out of his way. You might need to medium brake rather than hard brake, depending on how fast the cars are coming up behind you.

If you selected answer B, TO ACCELERATE AND VEER LEFT AHEAD OF CAR TO YOUR LEFT AS BLOW-OUT CAR OCCUPIES YOUR LANE, you might find yourself in trouble. It is a much more risky course of action because of the unpredictability of the car and drivers involved, plus acceleration at 65 mph doesn't change your relative position nearly as quickly as will braking. •

Navy Motorcyclists Get Break on Protective Clothing!

As of 30 March 1972, Navy Uniform Regulations authorized naval personnel in uniform to wear protective clothing with the uniform while operating or riding as a passenger on any two- or three-wheeled motor vehicle.

• "Protective clothing" means any clothing which would prevent or lessen injury, especially to the skin, in the event of an accident.

This protective clothing includes:

• A helmet, any color, as long as it meets either ANSI/Z-90.1 or Snell Memorial standards.

• Boots or heavy shoes of a plain design.

• Jacket, plain leather or material equal in protective qualities, unadorned except for safety markings.

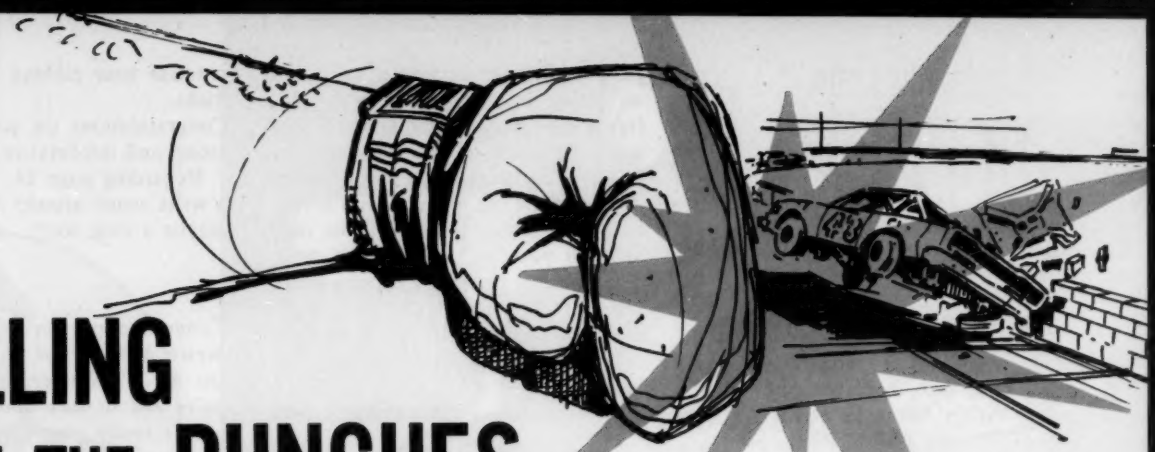
• Leather gloves or other suitable protective gloves.

Protective clothing may be worn only while operating, or riding as a passenger on any two- or three-wheeled motor vehicle or while proceeding to and from a parking area and duty station. The procurement of this type clothing is the responsibility of the individual. •

About Miss DRIVER

see back cover

Blonde, blue-eyed Barbara Gabrielsen calls Seattle her hometown. The 17-year-old charmer plans to attend college and major in History. Included in Bobbie's list of hobbies are tennis, swimming, and sewing. She tells DRIVER that she actually feels uncomfortable if she isn't "buckled up." •



ROLLING WITH THE PUNCHES

Richard Petty's thoughts on crash survivability

Champion race-car driver Richard Petty says making drivers more careful is the real key to highway survivability. But he points out there is much to be learned from the crash features employed in race cars; many features that could be, and some that have been, applied to street vehicles.

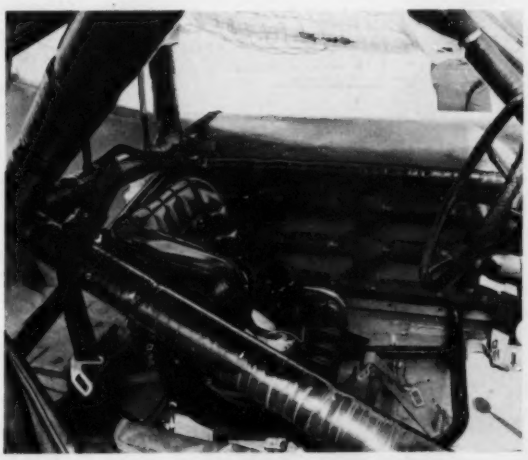
According to Petty, if two racing stock cars were to collide head-on at 50 mph, the chances of both drivers being able to walk away unhurt would be good. Such an impact, equal to running into a concrete wall at 50 mph, is 10 times greater than the safety factor being built into new automobiles.

Petty says, "I have hit the wall head-on at 100 mph, and a glancing blow at 180, and never got a scratch. The only time I had a bad injury was when I rolled over so many times at Darlington." That was in 1970, and Petty did several days of hospital time. His injuries would undoubtedly have been more serious without the safety features standard in his car. (Anyone who saw that crash on national television wonders how he survived at all.)

Petty believes there are many simple ideas that could be adapted from stock car racing to the street car. The main reason we are protected so well," Petty says, "is that our cars are braced to protect the driver. We have bars that go clear out to the front of the car, along the fender well, and down the roof-support column." NASCAR roll structures keep the engine from being shoved back against the driver; a feature which could be easily built into street cars.

Another idea of Petty's that goes along with making drivers more careful has to do with auto insurance. He's sure that everyone would drive more carefully if accident insurance were not available. He sums this up by saying, "Imagine the difference in your driving if you had to pay for any damage you caused" •

(Information courtesy NASCAR Newsletter)



These photos taken by DRIVER at the Miller Highlife 500 give a good idea of why race cars often withstand severe crashes without serious injury to the driver. It is a good idea to remember, as you whiz along the freeway at 65 mph, that the major emphasis in building your car was not on survivability; so, if you want to emulate the race drivers, you'd best do it on a race track in a car designed for that purpose. The vehicle shown here is a 1971 Ford, owned by Ron Gautsche. Mr. Gautsche, by the way, claims he wouldn't even start the engine in this well-braced vehicle, unless wearing his helmet and thoroughly belted into his seat.

BACKFIRE

Address your letters to:
Editor
DRIVER Magazine
AFISC/SEDD
Norton AFB CA 92409

I read with much interest the article "What About Retreads?" in the Feb '72 issue of DRIVER.

I was especially interested in the statement under the first sub-head: "The retreader is held responsible for the soundness of the casing, and must affix the symbol "DOT" to the tire. . . ."

I checked my tires and noted the symbol "DOT," although I bought them as *new* tires. Does the symbol "DOT" mean that retreads are being sold as new tires?

P. Bentivegna
Sheppard AFB TX 76311

The retread code stamp shown in the photo accompanying the Feb retread article (top, page 7) includes the letter "R." New tires also bear the "DOT" symbol, but not the "R." Issuance of the Federal Standard concerning retreads (Nr 117) was originally scheduled to be effective 1 Jan, but was extended to 1 Apr '72. (See "DOT News," page 25 for latest information on tire coding and record keeping.)

In your January issue you had quite an article on choppers and the different ways of constructing them. You made mention of raked plates, or raked triple trees. You neglected to state that the use of these with a very long fork causes the trail to be zero or even negative. This is fine on a three-wheeler driven by a meter maid, but can be a real killer on a high-speed two-wheeler. I am a chopper rider, and enjoyed your article very much.

SSgt Richard C. Perry
PSC 1279, TUSLOG Det 192
APO New York 09289

We did say a 6-inch extension is safe, and that anything over 10 inches "will stretch your neck." But, perhaps your letter will cause others to associate the danger more closely with raked plates, or triple trees.

I hate to nit-pick your wonderful magazine—but—in the March issue, the tires on the tractor pictured on page 27 are on backwards!

Richard F. Campagna
Safety Inspector (AHBOSA)
Hq U.S. Tng Cen, Infantry
Ft Dix NJ 08640

We supposed the artist had reversed the tire treads to add to the caricaturization of the pokey-buggy. The point we were really trying to make was that you should slow down when you see any slow-moving vehicle (SMV), especially those displaying the triangular, yellow-orange, red-bordered emblem picture. But we appreciate your ribbing as well as the kudo.

Congratulations on your very interesting and informative publication.

Regarding page 24, Mar '72 issue, a wrist watch around a battery? And maybe a ring, too?

N. M. Salsman
610 Frances Drive
Barstow CA 92311

Congratulations on a keen eye! The pretty Miss in "A Little Care Will Do It" WAS wearing a watch, but we're not so sure about a ring. She wasn't really cleaning the battery—just posing; otherwise, we would have had her cover her legs and arms.

I've been an advocate of retreads for years, and was therefore very much interested in your retread article, February DRIVER.

I've used retreads on a compact wagon, a big Olds convertible, and an Executive wagon, and never had a bit of trouble. I get them from a local shop that does its own work. The cost is around $12 per tire. I doubt that I'll ever buy new tires again.

Kenneth F. Licht
720 Michigan Ave
Evanston IL 60202

Thank you, Mr. Licht. This should remove some doubts, but we still advise our readers to stick with a proven, reputable dealer.

I would like to start a subscription to DRIVER magazine. *Quite by accident* I was indoctrinated to the safety involved while driving, and would like to keep abreast of new ideas and safety regulations. Inclosed is my check for $2.00.

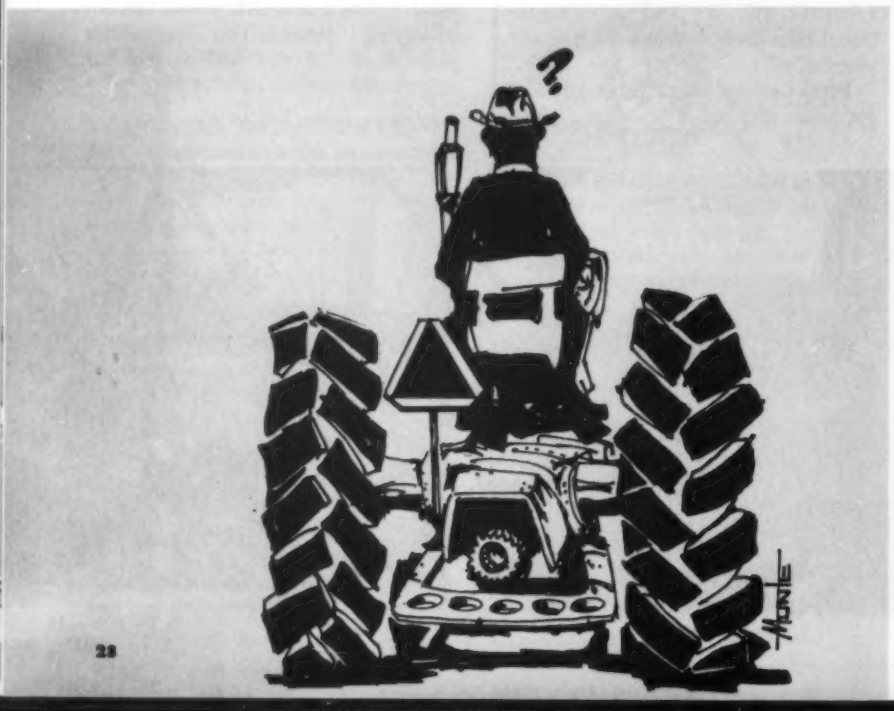
Miss L. J. S.

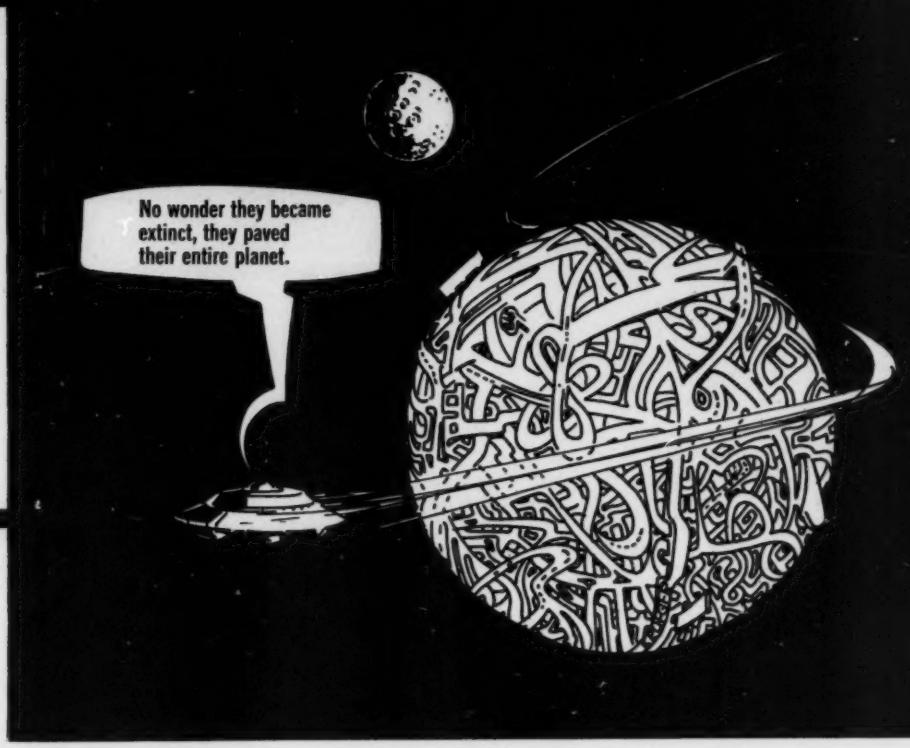
Thanks for the compliment, Miss S. Sorry about your accidental indoctrination. We don't handle subscriptions, but you can send your check to the Superintendent of Documents, Government Printing Office, Wash DC 20402.

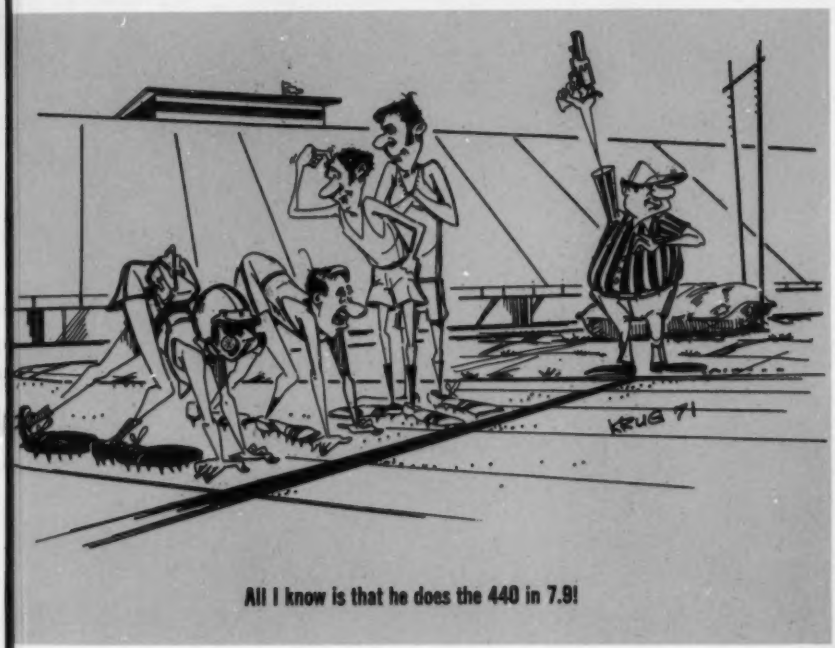
I would greatly appreciate your permission to reprint your Dec '71 article, "Look Ma, No Bugs on My Teeth!" in the Naval Safety Center's quarterly BIOENVIRONMENTAL SAFETY.

J. A. Bristow
Life Sciences Editor
Naval Safety Center
NAS Norfolk VA 23511

Granted! That type of info (motorcycle face and eye protection) never gets too old to read.

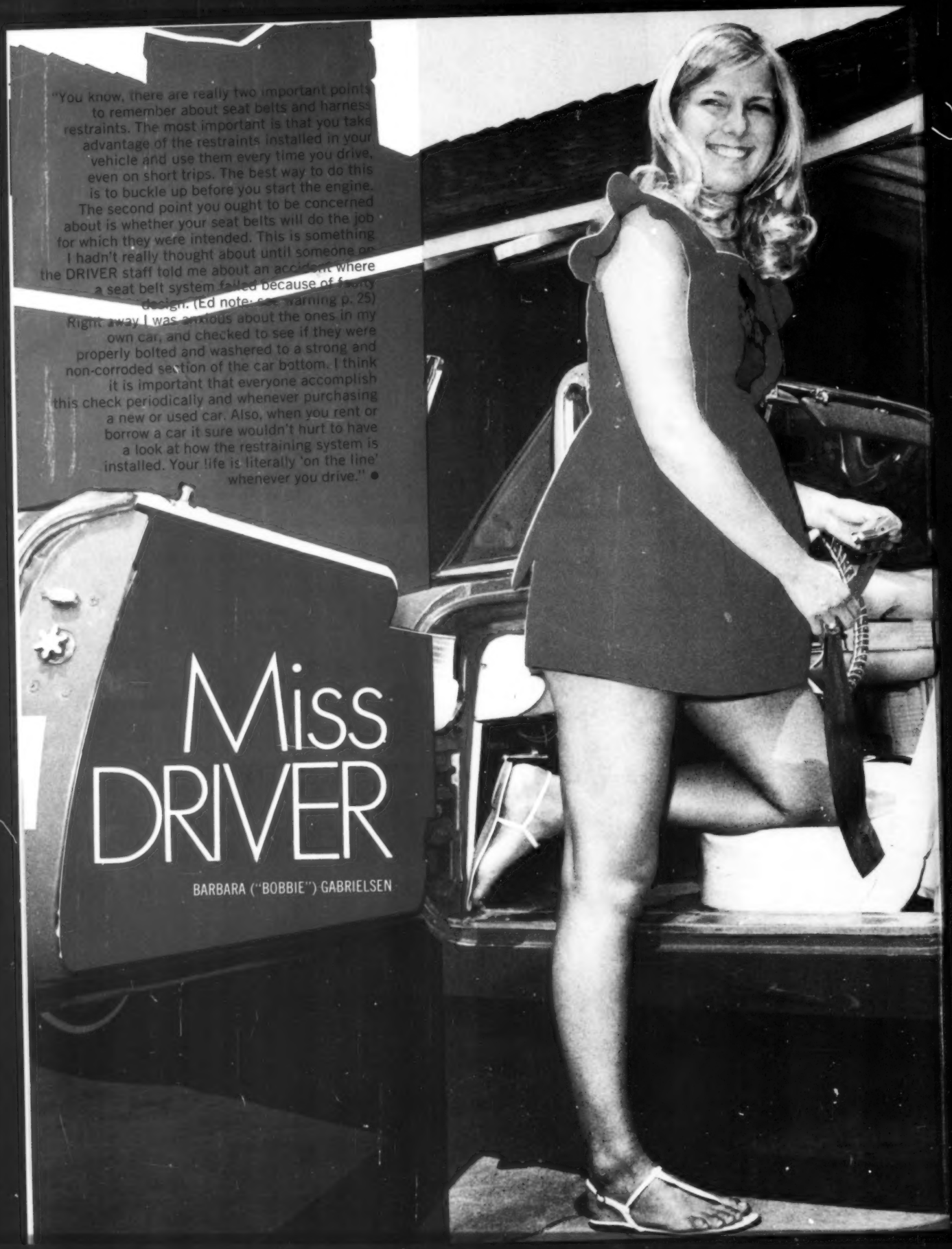






All I know is that he does the 440 in 7.8!

☆U.S. GOVERNMENT PRINTING OFFICE: 1972—789-142/11


"You know, there are really two important points to remember about seat belts and harness restraints. The most important is that you take advantage of the restraints installed in your vehicle and use them every time you drive, even on short trips. The best way to do this is to buckle up before you start the engine. The second point you ought to be concerned about is whether your seat belts will do the job for which they were intended. This is something I hadn't really thought about until someone on the DRIVER staff told me about an accident where a seat belt system failed because of faulty design. (Ed note: see warning p. 25) Right away I was anxious about the ones in my own car, and checked to see if they were properly bolted and washered to a strong and non-corroded section of the car bottom. I think it is important that everyone accomplish this check periodically and whenever purchasing a new or used car. Also, when you rent or borrow a car it sure wouldn't hurt to have a look at how the restraining system is installed. Your life is literally 'on the line' whenever you drive." ●
Miss DRIVER
BARBARA ("BOBBIE") GABRIELSEN